JULY 1956 2s. 3d.

PERSONNEL MANAGEMENT & INDUSTRIAL EQUIPMENT

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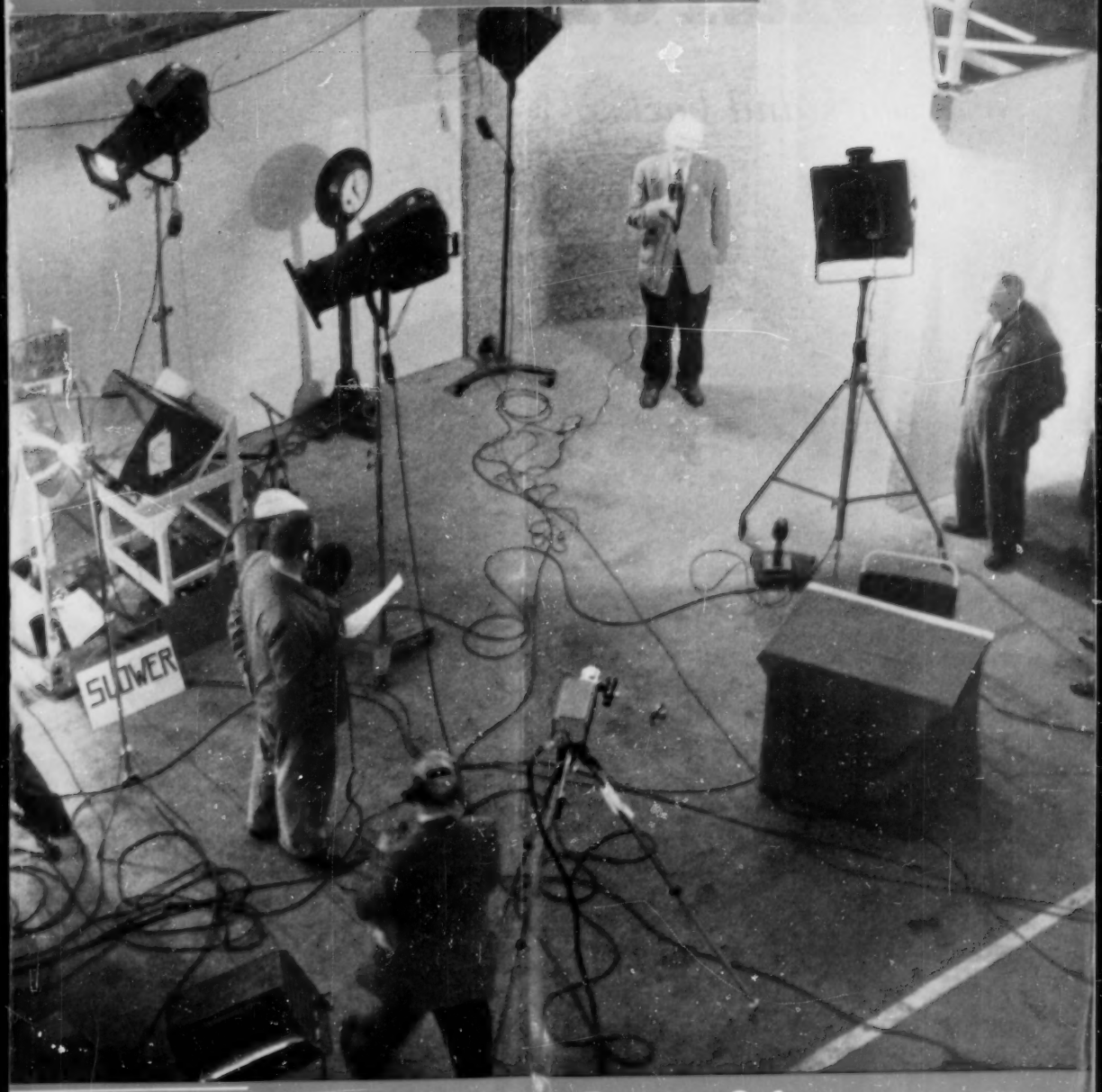


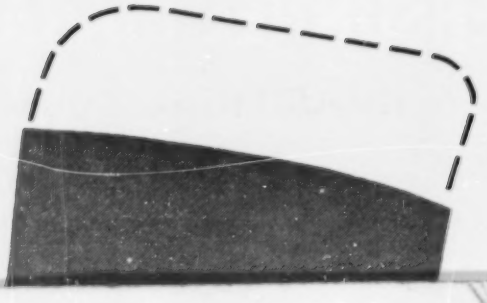
TV Spotlights Factory Safety (see page 21)

Nesting chairs?

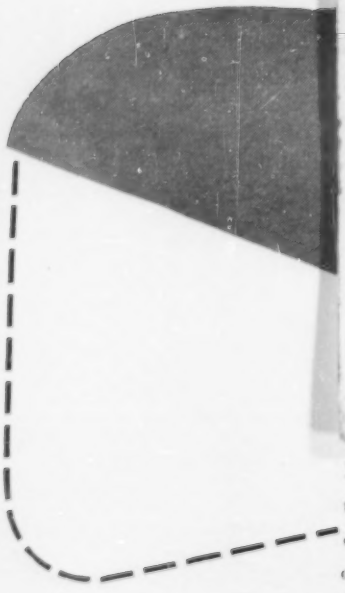
Delaron

seats and backs

never



WAVY



It is half the ... non-porous. Added to which it is ... The colour ... damp cloth to keep it fresh, clean and gay. available are light tan, black and brown. So if you're thinking of having nesting chairs fitted with backs and seats which will last, bright and fresh, for as long as the frames themselves, ask us about DELARON laminates. Get in touch with us at this address :— Dept. D12B, Thomas De La Rue & Co Ltd, Plastics Division, Delaform Works, Cricklewood Lane, London, N.W.2.

"DELARON" is a registered trade mark

PAGES

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ensures* a clean, dry towel for everyone every time

What a difference the Towelmaster Service makes. Instead of sad, sopping roller towels or overflowing paper bins you have this gleaming white cabinet, offering a length of clean, soft, dry towel to every user—at all times. Why, from the point of view of prestige alone, the Towelmaster is a fine investment. And the cost? Only 5/- for a roll 45 yards long—enough to dry 180 pairs of hands.

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And the Towelmaster is as efficient as it looks. Pull gently and down comes a length of snowy-white towel, sufficient for a really good dry. The used lengths automatically roll themselves back into the cabinet out of sight (into a separate compartment, of course).

ADVANCE
Towelmaster

The people to contact are: Advance Linen Services Ltd. (Dept. A29), Stratton House, Piccadilly, London W.1. Telephone: Mayfair 8886

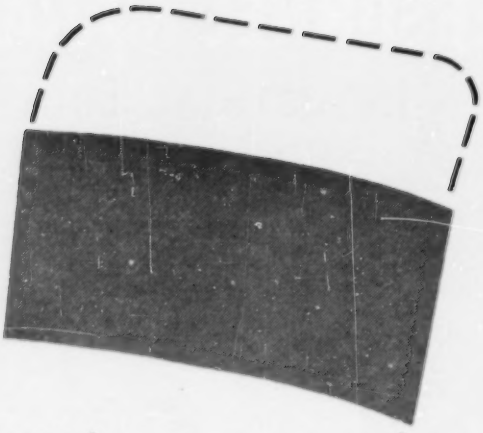
* *We collect and deliver* **every** *week; you always have a spare roll in reserve for each cabinet.*

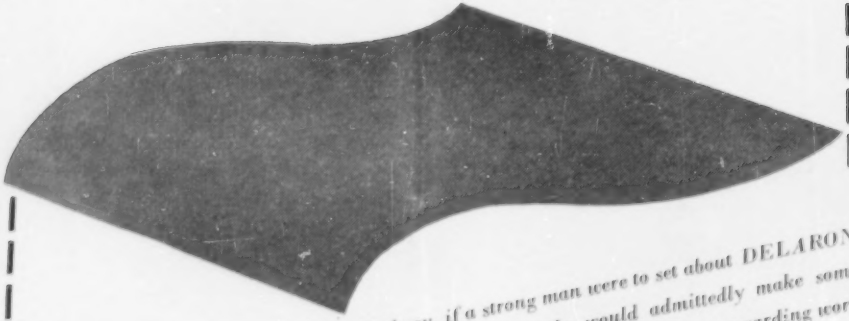
Nesting chairs?

Delaron

seats and backs

never wear out





Mind you, if a strong man were to set about DELARON laminate with an axe he would admittedly make some impression on it. But it would be hard, unrewarding work because this plastic is the toughest and best material in the world for seats and back rests.

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So if you're thinking of having nesting chairs fitted with backs and seats which will last, bright and fresh, for as long as the frames themselves, ask us about DELARON laminates. Get in touch with us at this address :—

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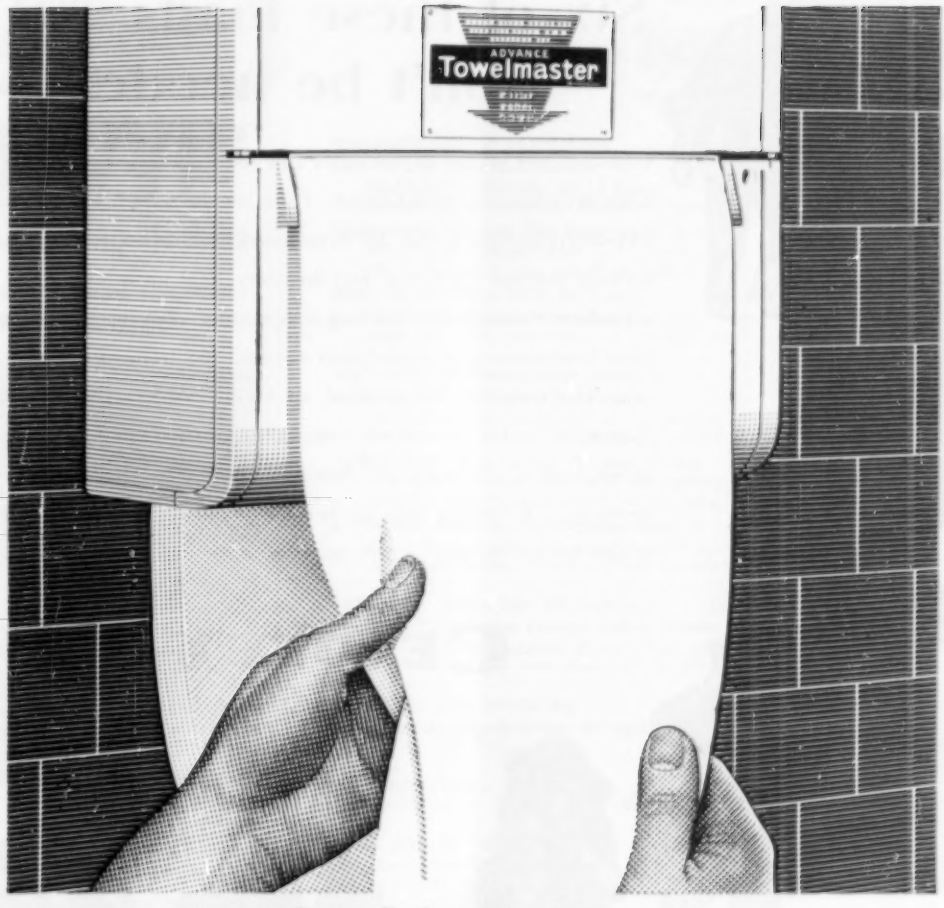

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There is no capital outlay. You can budget precisely for the year ahead. A minimum of two cabinets is installed and maintained free of charge. All you pay is 5/- for each roll of towelling used. Minimum usage is one roll per cabinet per week.

And the Towelmaster is as efficient as it looks. Pull gently and down comes a length of snowy-white towel, sufficient for a really good dry. The used lengths automatically roll themselves back into the cabinet out of sight (into a separate compartment, of course).

ADVANCE Towelmaster

The people to contact are: Advance Linen Services Ltd. (Dept. A29), Stratton House, Piccadilly, London W.1. Telephone: Mayfair 8886

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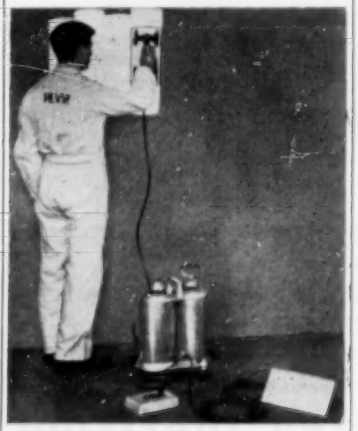

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JULY, 1956

PERSONNEL MANAGEMENT & INDUSTRIAL EQUIPMENT

SAFETY • HEALTH • WELFARE • CANTEEN

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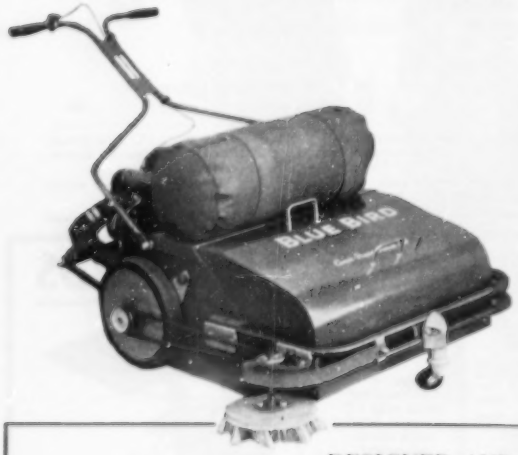

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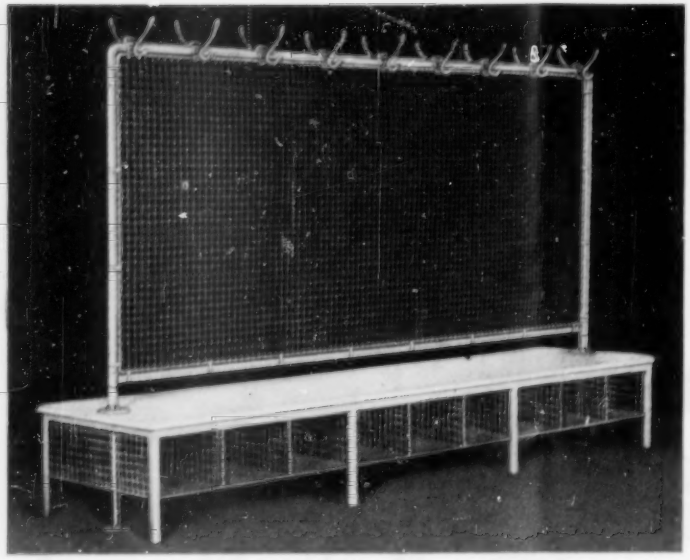

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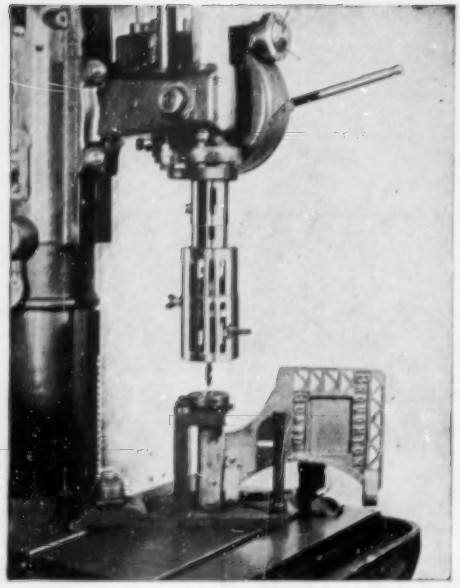

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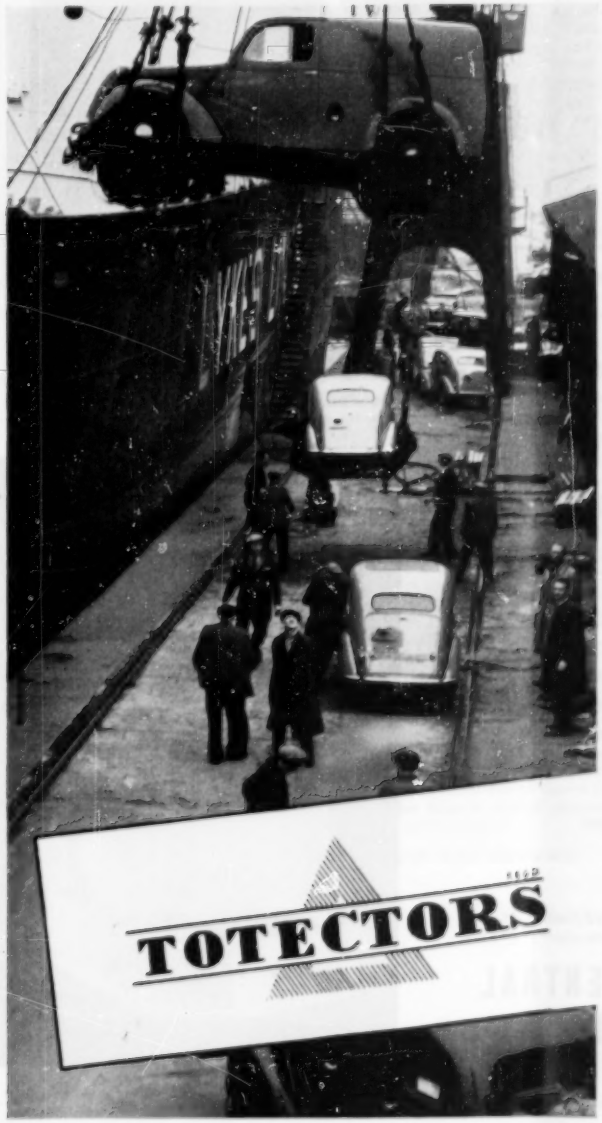

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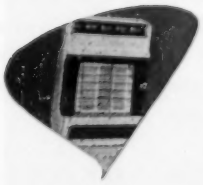

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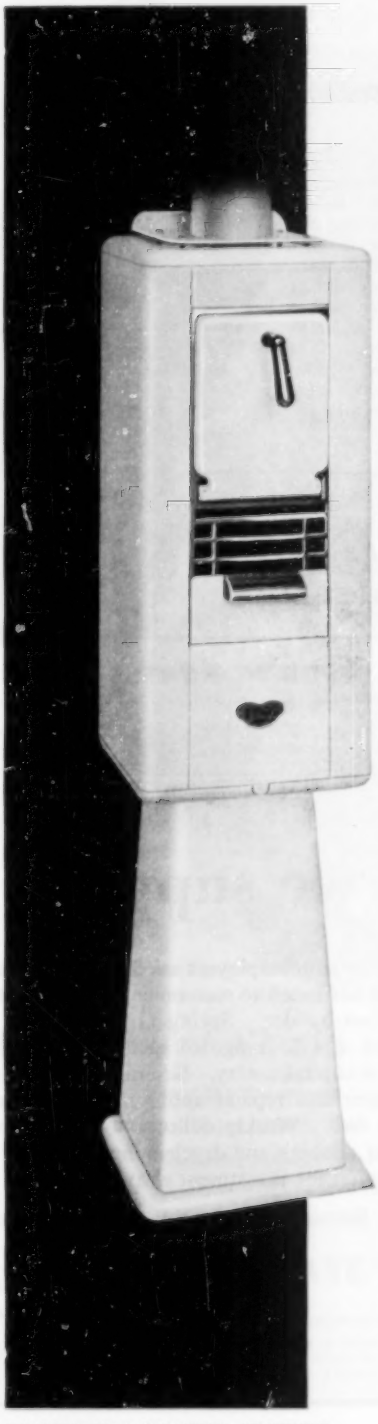

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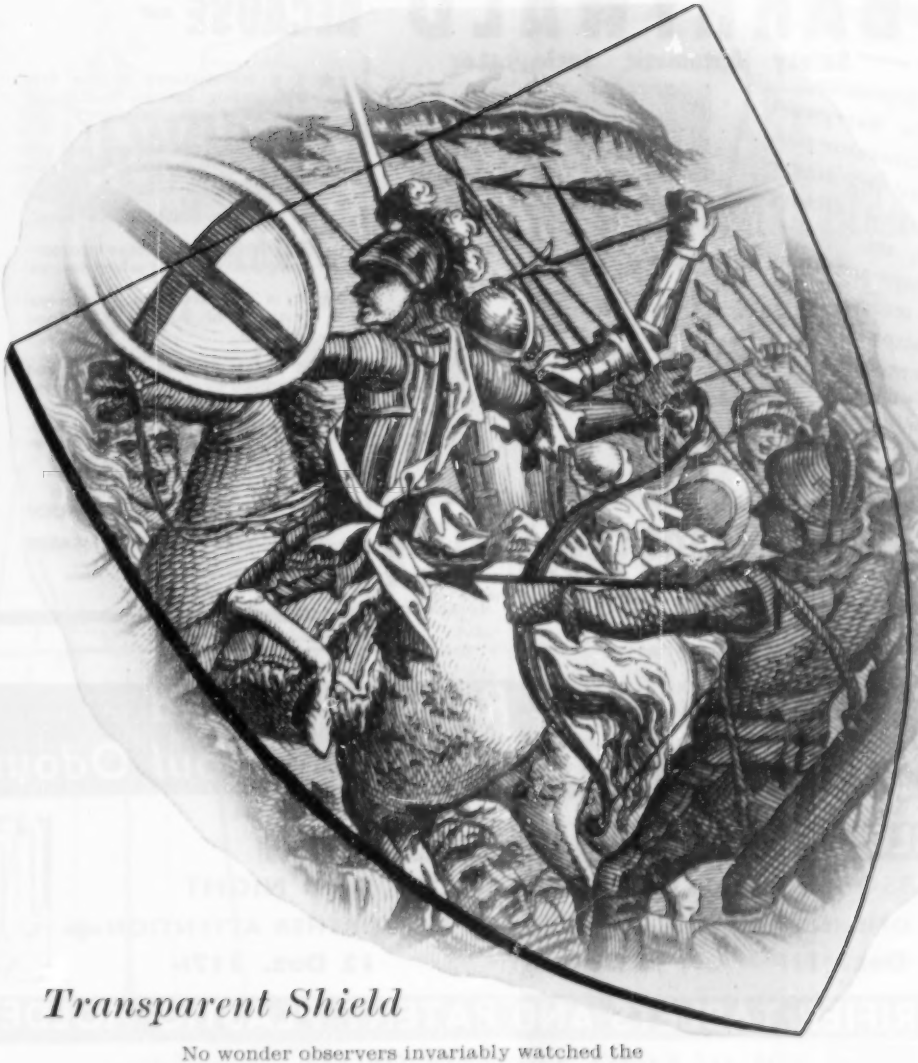

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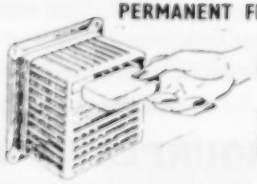

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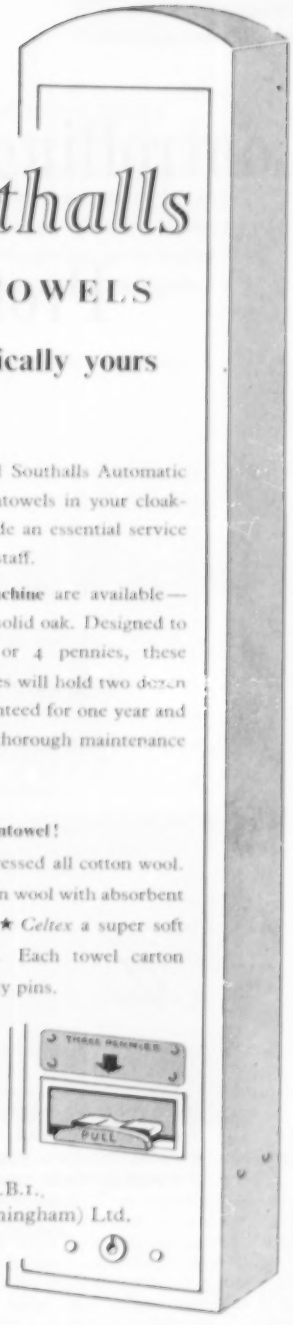

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"Don't be the Third Man" was the theme of the Wallerscote Safety Week. It was pointed out that two out of three workers here go through their working lives without losing time through injury. As part of the exercise, a young manager dressed up as the notorious Harry Lime.

In the years to come television is likely to be put to a variety of industrial uses. Here, then, is the story of how ICI pioneered with its application to safety on the shop floor. In this way an accident prevention theme was put across to all sections of a large works. TV apart, however, the story is timely for it tells of an attempt not to improve on a bad safety record but to make a good one better.

"Personnel Management" Picture Story

Television Puts Across Factory Safety Theme

By A. S. IRVINE,
Information Manager, ICI Alkali Division

"Stillographs" giving news pictures were changed every few hours during the Safety Week. On the left R. E. Tugman, the Division safety officer, centre D. R. Debes, works manager, and, right, H. R. Payne, head of ICI Central Safety Department.

THE Wallerscote Works of the Alkali Division of *ICI* is a compact works covering in all some 100 acres, and employing all told some 1,300 men. Although their safety record, even by *ICI* standards, was impressive, the works manager felt that they were becoming too complacent, and that a shot-in-the-arm would do everybody good.

The matter was considered in consultation with the safety staff at Division HQ, and, of several possible lines of attack, a concentrated Safety Week was chosen. This was to run for the five working days starting on Monday, October 31st, 1955, and was to be supported by the whole "armamentarium" of modern communication.

It so happens that the Alkali Division is one of the few Divisions of *ICI* that is interested in the film as an internal communicant. They had been experimenting with canteen programmes presented by rear projection units, as these units give a bright picture, do not require black out, and interfere far less than the average canteen film show with the decent liberties of the diners. A logical extension with the additional merit of practical and immediate personal impact is the use of closed circuit telecine with facilities for live broadcasts. For to say: "I've seen him on the tele." is tantamount of admitting a stranger to the intimacy of the family circle, and canteen telecine with live interludes would be like having the managing director chatting at your very table. In fact, a semi-scale canteen live/telecine experiment had been planned for early 1955, but

The Alkali Division has long experimented with canteen film shows given by rear-projection unit—a machine like a large TV. This inspired the use of closed circuit industrial TV as the chief communicant during the Safety Week.

A studio was built from exhibition panels in a couple of bays in the Wallerscote machinery warehouse. The equipment was partly Alkali Division property and partly hired from *Pye's* who sent one of their engineers to help.

had hung fire for technical reasons. It seemed, therefore, optimal to incorporate an ambitious full-scale exercise with Wallerscote Safety Week, and the added expense of this was readily accepted by the Division Board.

On an exercise of this scale where the expenditure is budgeted at the 30s. a head level, all possible services are called in to help, and a good deal of the lively background of the exercise was due to the enthusiastic support of the *ICI* HQ Central Publicity Department in London. Besides helping the Division and works safety officers to plan the Week, they provided the expert services such as poster design and the production of a special magazine. London also lent the *ICI* films officer and a member of the Press Section to help Divisional personnel with the television exercise.

The 1954 frequency rate at Wallerscote was about 0.3 disabling accidents per 100,000 exposure hours. This meant that two out of three workmen could expect to go through their entire working lives without losing time from accidental injury. The theme of the Week was, therefore, "Don't be the Third Man". As well as the Harry Lime theme on the air, the Third Man was depicted on posters, on lapel badges, and there was even a young manager dressed up as a sinister figure that did everything wrong, and provided diversion both in the works and on the TV programmes.

Every day was dedicated to some aspect of safety. "To-day is hand tools day", ". . . access day",". . . old Spanish customs day", announced the posters, and the works tannoy carried the same message. In addition

Live broadcasts totalled 40 minutes each day, 25 minutes in the company's time and 15 minutes during the lunch break. The "Third Man" theme was used as an aural and visual tuning signal before each broadcast. The author of this article is seen here in his role of chief announcer.

a new VIP each day visited the works, gained his impressions, and later gave them out during the VIP's spot on the TV. The VIPs included HQ personalities, local dignitaries, and HM Chief Inspector of Factories, Sir George Barnett.

There were numerous other aides-memoires, such as free braces labelled "Don't let us down", a special magazine and safety competition, and a fleet of six "Stillographs" that carried notices and new pictures changed every few hours. But the highlight of the Week were the daily television broadcasts.

For this a couple of bays were cleared in the machinery warehouse and a studio of some 1,500 sq. ft. was erected, using standard exhibition panels on a module of 4 ft. One industrial camera train belonged to the Alkali Division while two more and an engineer were hired for the week from *Pye's*. The wiring up, including the dozen sets on the works and in the canteens, was carried out by the Division electrical test-room staff, who also provided the sound equipment. The general direction of the programmes was in Alkali Division hands, but the HQ assistant press officer acted as producer, while the *ICI* films officer saw to the staging and lighting, and operated the mixers in control.

A total of forty minutes' live broadcast was put on each day, twenty-five minutes in the company's time just before the midday and evening buzzer, and fifteen minutes during the fifty-five minute lunch break. The Third Man theme was used both as an aural and as a visual turning signal five minutes before each of the three daily broadcasts.

At the morning broadcast the chief announcer introduced a Wallerscote employee—manager or man—who propounded the day's theme. Immediately afterwards the sinister figure of the Third Man was seen to lampoon the theme. Then there was the chief announcer's spot followed by the VIP for the day, introduced by the works manager. The next few minutes were given to News, some of the stills being barely an hour old ; the news was read each day by a different member of the works manage-

A VIP visitor to the works during Safety Week was H.M. Chief Inspector of Factories, Sir George Barnett. He is seen here gathering opinions on the exercise from a group of young workers.

Later Sir George visits the studio to give *his* impressions to some 1,300 employees gathered round TV receivers at various points in the works. He and the works manager wait their cue from control.

Spotlight is once more on the Third Man, while the studio audience looks on critically. Those who saw the film will agree that the dress has caught something of Orson Welles' famous characterisation.

And so ends the Wallerscote Safety Week. The Third Man is reformed and memories remain of a most interesting experiment designed to reduce to negligible proportions the management-worker gulf and make the "they to us" feeling a thing of the past.

ment. If time, there was then a speciality spot from, say, a London HQ visitor.

The mealbreak broadcast half an hour later was given over to a darts match or to some panel game, the panel being all Wallerscote employees. On one occasion the managers of the two rival football teams debated the season's chances under the genial chairmanship of a high football official on the staff. The programme was usually rounded off by the Third Man up to his tricks again.

The evening performance was a short recapitulation of the day's happenings with the works safety officer summing up, or interviewing casually-met employees in an outside broadcast. Then there might be another speciality spot, e.g. the local newspaper editor giving his version of the trials of the authors of *mid-Cheshire Sportlight* or some such. Or the Third Man or "M. Salvus" might finish the day's proceedings in a lighter vein. On the final day the Third Man was reformed and the last broadcast faded out with him setting

(Continued on page 44)

A Simple Aid to BRIGHTER LECTURES

By R. L. DAVISON

Surprisingly few people, says the author, have heard of the flannelgraph, but it is one of the most simple yet effective of visual aids. This article describes an actual case history where the flannelgraph was used with remarkable success and goes on to tell how training officers can make their own.

ABOUT two years ago, ten 16-year-old girls sat in the training room of a manufacturing company in the North East. On Friday they had left school. On Monday they joined 800 others and so became the newest part of the company's female labour. Their first and second days as wage-earning members of the community were occupied in following the company's short but comprehensive induction course. They were conducted round the manufacturing process. They answered, on paper, a number of apparently unrelated questions. They were instructed in the firm's history, its administrative make-up and its social and welfare services.

And then—Wednesday morning—they assembled to hear the talk which, more than any of the others, ought to have captured their interest and imagination. For the Head of the Wages Department spoke about their pay and prospects in the company's service. He knows his subject, and is a good speaker who can make a much duller subject interesting.

Yet only the bright girl listened intently—as indeed she had done to all previous instruction. Eight were obviously half asleep. And the little dark girl at the back was doubled forward in her chair, arms swinging like pendulums, her knuckles grazing the floor at each swing. Her head hung; her eyes were dull. She was unashamedly bored.

The frustrated lecturer, suffering from a feeling that he was unable to communicate his ideas in language comprehensible to his audience, ascribed his failure to their mental indigestion and blamed the speed of the induction course. The personnel manager blamed the lecturer. But although in this instance both men may have been right up to a point, I suggest that both overlooked the real problem—the problem of suitable presentation.

There can be no doubt that the ideal instruction is one which enables trainees to "learn by doing"; and that to the acquisition of any skill practical experience is essential. But when this becomes impracticable, and classroom instruction replaces the physical handling of materials, a suitable visual aid should be an essential item of equipment. Films and film strips are undoubtedly useful, particularly the former when motion is an essential part of the study. But should a film strip not be available, there is a tendency to revert to the blackboard as the only possible alternative. Yet, depending for its effectiveness upon a demonstration of skill by the operator, the blackboard requires expert handling before it can be called an "aid".

Avoid "Schoolrooms"

Unless the lecturer is prepared to erase each illustration before proceeding to his next point, trainees may be confronted with a diversity of diagrams and figures baffling to the most retentive of memories. And its use may well have the psychological effect of simulating the atmosphere of the schoolroom. Sensing this, some may unconsciously resist tuition because of an imagined loss of dignity. And young new entrants find themselves back in a familiar atmosphere where any stratagem to avoid paying attention without suffering retribution is traditionally legitimate.

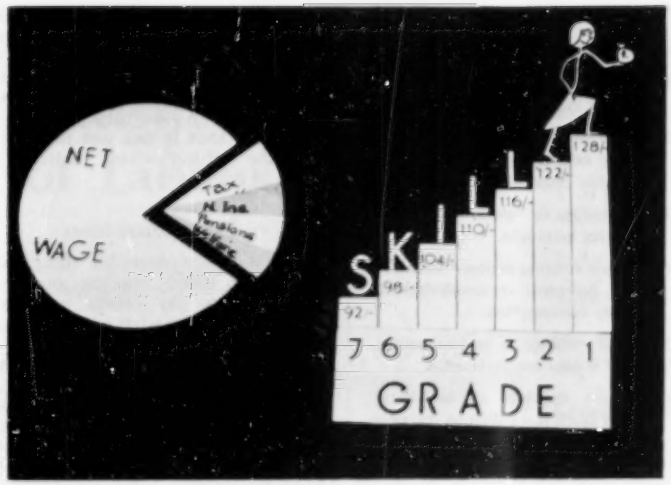
The incident I have described is a case in point. A subject immediately affecting the audience, an audience potentially interested in the subject and a charming and capable speaker to supply the answers: here were all the ingredients for a successful talk. Yet these girls were bored. For one thing was lacking—a sufficiently attractive method of presentation.

This could have been done with very little trouble by an adaptation of the flannelgraph. Surprisingly few people have heard of it. Fewer still have seen it demonstrated. Yet, of those who have, none will deny that as a visual aid it far surpasses the blackboard in impact and ease of operation, or that it is often to be preferred to the much more expensive film or film-strip.

How It Works

The flannelgraph works on the principle that any material with a nap will temporarily adhere to a similar material. Backed with lint or felt, diagrams and pictures, coloured as required are "smoothed" on to a black cloth, and remain in position until the speaker removes or replaces them. Against the black material which constitutes the backcloth, illustrations are remarkably vivid, and are much more easily seen than are drawings on the chalky surface of a blackboard. The lecturer need show only one item at a time, so that the eye is not distracted by irrelevant matter, and attention can be focused on the point currently under discussion. Simply by picking one flannelgram from the board and replacing it with another, he can move smoothly to his next point without that interruption which sometimes occurs when changing frames in a strip projector, or which inevitably accompanies the cleaning of a blackboard. By using shapes of coloured felt, superimposed one upon another as the lecture proceeds, composite diagrams can be built up, and once prepared, flannelgraph illustrations can be used over and over again—a valuable point when a course of instruction is likely to be repeated.

The flannelgraph is not merely a child's toy, although it can be fascinating to children. I have seen it used for advanced medical lectures to consultants and hospital staffs, who have been unanimous in voicing their appreciation. I have heard of a



An example of the flannelgraph which works on the principle that any material with a nap will stick to another.

lecturer in building construction who prepared coloured rectangles to represent bricks and who, when teaching the various bonds, encouraged his students to do their own "bricklaying" on the flannelgraph board in the classroom. These students are thus able to "learn by doing" without handling the actual materials involved.

It would be impossible to give in detail all the uses to which the flannelgraph can be put. No doubt adaptations will already have occurred to any readers who have a problem of presentation.

Preparation of the flannelgraph is simple, and inexpensive. An ideal material for the black backcloth is the material known in the textile industry as "filter cloth" or "dommett". This is either spread over the surface of a blackboard and fixed with drawing pins, or mounted on a sheet of hardboard as a permanent fixture. Illustrations are prepared on paper (soft white cartridge paper is best) to the back of which has previously been glued white surgical lint, fluffy side out, or felt. The completed figures are then cut out with scissors and are ready for use. If it becomes necessary to superimpose one shape on top of another, this can be done by facing the pieces with lint or felt; or as described above, by preparing the whole flannelgram from coloured art felt. An artistic bent, though useful, is not a necessity; but a box of poster paints and a stencil outfit are valuable in giving added impact.

In a campaign of adult education about cancer, for which I am responsible, the flannelgraph is in everyday use. Cancer is not ostensibly an attractive subject, and we undoubtedly owe it to the flannelgraph that audiences consistently invite us to visit them for repeat lectures.

But—a word of warning. People who have not previously seen it in operation are inclined to be absorbed in conjectures about the medium to the exclusion of the subject it illustrates; and we have found it best to satisfy curiosity by explaining how it works at the outset.

'Guinea Pigs' on a Speedy Reading Course

By J. M. BRIDGES, *Company Personnel Manager, T. Wall & Sons, Ltd.*

Here is an account of what happened when a group of young executives volunteered to be guinea pigs for an experimental speedy reading course. The idea of these courses is to teach busy people how to cut down on the amount of time taken to go through their in-trays. Mere scanning of words is not enough, however: there must also be comprehension. Readers of this article are advised to tackle it at their normal rate.

I HAVE a healthy respect for the great American nation and am proud to number among my friends one or two of its citizens. However, one of the privileges of friendship is to say what you think without wrapping it up too much. For that reason I say without diffidence that when I read of new developments in the business world of the U.S. I do so with a certain amount of caution, even scepticism.

With my "don't swallow it whole" stop pulled full out, I read many months ago that Speed Reading courses had been tried out exhaustively there, found to be wonderful and were now part and parcel of the necessary equipment of the promising executive and that was that. The idea might have been pigeonholed indefinitely in my mind but for a request by one of our directors to smoke it out and see if there was anything in it for us. I found that a number of companies were experimenting with some material from Harvard University and was privileged to spend a day with the I.C.I. people looking it over.

About this time the North Western Polytechnic decided to run experimental courses and in co-operation with some other companies in our Head Office district of West London, we laid on a course. The guinea-pigs numbered eleven and their jobs covered the sales, production, technical, accounting and administrative functions and included a librarian. All were relatively young, 30—40, eager but sceptical and prepared to endure the course so that they could report back to their respective companies on its effectiveness.

Our tutor, Mr. E. F. Harte, of the North Western Polytechnic, had to clear away a lot of debris before he started. The debris consisted chiefly of the notion that, at the end of this 16-session course spread over eight weeks, we should be able to read any kind of matter about twice as quickly. We were gently convinced that speed

of reading was not the sole criterion of effectiveness; adequate comprehension was necessary too.

We were further warned that certain kinds of reading matter were unsuitable for "speedy" consumption; for example, legal, technical, or genuine literary works. Having swallowed these ideas, we felt rather deflated. What else would we want to read anyway? The answer is unsatisfactorily described as "general". General reading matter is that which in an uncomplicated way sets out ideas, concepts and so on interlarded with facts but not overburdened with them, and it's surprising how much of that there is about.

It's no use trying to read a technical description like "changes in paramagnetic susceptibility accompanying absorption processes suggest mechanisms for electron transfer processes", at a rate of 500 per minute, because it is important that you understand and "mentally comment" on the statement before you tuck it away in the recesses of your mind along with other previously acquired relevant data. And you don't want to read legal documents or agreements at top speed either, or you might confuse the Sanity Clause with Father Christmas; but we found we could give a fillip to our general reading which, as I previously remarked, is more commonly encountered than one would imagine.

How It's Taught

The details of our course are interesting. After the general introduction we "read" a specially prepared film at a speed of 215 w.p.m. The picture on the screen is one of a page of blurred print. Beginning at the top left corner a group of words comes into clear focus and this little snatch of clarity progresses steadily along the lines forcing the eyes to follow at a steady rhythmic rate. As the clear portion progresses it leaves the print behind it blurred again so there is no going back. Herein endeth the first lesson, because one of the common impediments to improving pure speed of reading is the habit of allowing the eye to regress—it's a kind of checking up operation caused by either starting part way along a line of print and then nipping smartly back to see if you've missed anything important, or else the first look hasn't registered on your brain and you return to get it properly. By means of complicated apparatus it has been proved that few of us are

6 Speedy Reading Points

1. **Few adults read "up to" the level of their mental capacity.**
2. **Regression—the re-reading of words and phrases—is the most common cause of slow reading.**
3. **The ability to "skim" efficiently can also be taught.**
4. **Certain reading matter—literary, legal, technical—is unsuitable for speedy consumption.**
5. **Rapid reading is useless unless there is also comprehension.**
6. **Success depends on individual effort much more than on training gimmicks.**

without this regression habit and straightening that out produces the first increment of improvement.

To make sure that the film has been read with understanding a 10-question test is set and this exercise followed by test is the standard practice. Ideally, speed of reading in w.p.m. should increase with practice while comprehension should remain steady.

After the film came exercises in free reading of printed passages, and it was here that straightening out of the tendency to regress showed up. Our free reading speeds improved too which meant that deprived of the stimulus of the film there was a residual and, we hope, permanent increase in speed. Lulled into a false sense of power by the ease with which we coped with the earlier films at a mere 215 w.p.m. we were successively shocked and goaded into further effort as the speed increased and the number of lucid snatches per line decreased. Training your eyes and your mind to take in a larger number of words per rest obviously reduces the number of rests or "fixations" per line and effects an improvement in reading speed. However, the muscular effort of itself was quite a strain to some of us and as one weary student said: "Another couple of lessons and I'll need my eye sockets rebushed!"

An examination of the kind of stuff we were reading and the test scores revealed an interesting factor. Extracts were used from *Nature*, *New Biology*, *The Listener*, *Hansard* and so on and covered such subjects as "popular science", economics, history, sociology, anthropology, the lighter fractions only. It wasn't really extraordinary that those of us who were technologists revelled in the scientific articles while the arts and economics types dipped smartly only to rise and shine in their own subjects; but we concluded that it was not familiarity with the subject which mattered so much as interest in it.

Post-mortem

Statistics are deceitful things and those for speed reading no more reliable than any others when you don't quite know what you're measuring anyway, but such records as were kept showed an upward trend and all members of the course are prepared to say that it was to their advantage. The conservative estimate was that reading speed increased by about 25 per cent without loss of comprehension. As to how the improvements have been effected there is no such unanimity. We are divided into three groups: those who hold one opinion, those who hold one diametrically opposed and those who are perched securely but equally resolutely on the fence. The first school believes that the mechanical or muscular improvement has been induced by the pacing of the films and without them no significant result would be achieved. The second school believes that while the films are helpful in showing what it means to read at various speeds they are not in themselves the real cause of improvement. That lies in examining the causes of slow reading. Since knowing a problem is supposed to be 60 per cent of the way to solving it the mere fact of telling about impediments brings an awareness of one's own defects, hence a conscious effort to improve which brings results. Me? I'm on the fence and I don't think a guinea pig is the best person to pontificate on the why's and wherefore's.

One last thought. What do we do with all the time we save in reading? A reporter in the daily press has suggested that we sit down and write more memos, but I would say it would provide a good opportunity to read "The Art of Book Reading", by Stella Center, which is about as level-headed an approach to the subject as I know. I've read it, so my spare time is being used to think out a course in "speed writing" or "how to say it without frills" in the hope that it will still further diminish the load of paper with which I have to cope each morning.

Statistical Methods of Labour Control

By WILLIAM DURHAM, M.A.
Head of Information Department, Industrial Welfare Society.

SOME idea of the rate of labour turnover is essential and the usual formula is:

$$\frac{\text{Number of employees leaving during the year}}{\text{Average number employed during the year}} \times 100$$

Shorter periods can be taken but owing to seasonal variations such results may not be representative. Such regular variations can of course be eliminated by adding or subtracting the median deviation (found over a period of years). The difficulty with this formula is that it is heavily affected by the extreme mobility of a small fringe of new recruits. Figures of 100 per cent are quite common among firms who can nevertheless claim that 80 per cent of their employees have been with them for years. For this reason an approach from a rather different angle is sometimes applied. It shows the percentage of employees engaged in any one year who are still with the firm from year to year. It naturally requires far more record-keeping to obtain the figure and the results are still heavily affected by the turnover of the first year. This is known as the New Starter Survival Index.

Percentage of new engagements after—

Base Year	1950	1951	1952	1953	1954
one year	51	45	53	38	47
two years	36	31	44	35	—
three years	30	26	39	—	—
four years	27	24	—	—	—
five years	25	—	—	—	—

Another type of survival index is that which compares the total number employed at the firm on a certain date with the number of them who are still with the firm on the same date in successive years. This is called the General Survival Index, an example of which follows.

Base Year	1950	1951	1952	1953	1954
Year 1	100	100	100	100	100
1 year later	78	76	80	80	76
2 years later	72	71	74	72	—
3 years later	68	67	66	—	—
4 years later	67	60	—	—	—
5 years later	60	—	—	—	—

Where it is possible to recruit men for any job from the labour market, an age breakdown will be not important. But where a firm depends largely on its own apprentices, then a balance of age groups is vital. Such a breakdown will also be needed when commencing a group life insurance or a pension scheme.

It is useful to make an occasional analysis of the payroll on a length of service basis, as shown on the following table.

Male Employees—Length of Service

Length of Service (End)	1947	1948	1949	1950	1951	1952	1953
More than 49 years	2	4	3	3	6	3	4
40—49 years	30	34	38	40	43	42	40
30—39 years	43	48	86	100	93	80	74
20—29 years	153	149	101	83	79	75	70
10—19 years	84	79	76	75	74	76	69
3—9 years	64	65	73	87	95	130	165
In 3rd year	21	26	29	27	70	44	45
In 2nd year	32	31	31	78	58	51	48
In 1st year	48	42	123	79	73	60	51
Total	477	478	560	562	566	561	566
No. engaged during year	181	153	476	304	203	190	153
Labour Turnover Rate		31.7	76.3	53.8	35.3	34.6	26.5

This shows the service grouping of an old established firm which expanded rapidly in 1919–1920 taking on men of 25–35 years of age. By 1947 these men were beginning to reach retirement age and as a group they tend to fade out by 1953. At the same time a further expansion of the firm in 1949 led to heavy recruitment and a tendency to lower the previous high standard of recruiting. A high turnover among new starters resulted for a year or two until selection and induction techniques were overhauled. Stability then returned. An analysis of this nature gives a clearer picture of what is going on. It is also useful in picking up approaching long service awards.

Similarly an age breakdown shows when heavy losses are likely to occur owing to retirement. In the example quoted below the higher numbers in the older age group were not taken account of early enough and by 1950 a serious shortage of skilled men was alleviated only by retaining employees after the normal retiring age.

Distribution of Skilled Men by Age Groups (in percentages)

Age Group	1940	1945	1950	1955
65 plus	1	3	5	6
60—64	14	14	11	5
55—59	14	12	6	7
50—54	12	6	7	8
45—49	6	7	9	8
40—44	7	9	9	12
35—39	9	9	12	9
30—34	10	12	10	11
25—29	11	10	11	12
20—24*	4	6	7	7
15—19	12	12	13	15
	100	100	100	100

* *National Service mostly served after deferment.*

If all the analyses mentioned in this article were regularly carried out, the personnel manager would be wondering when he would be able to do his normal work. But each of them is a tool to be used as and when the need arises. Periodic audits are vital; to overdo them would waste a great deal of time, and the wise manager will use them with discretion.

"Directed" Suggestion Schemes Pay Off

DISAPPOINTED at results from their conventional type suggestion scheme the *Alsthom Company* of Paris has devised what they consider a better psychological method which has been dubbed "Directed Suggestions".

The principle of this system consists essentially of selecting a subject for study: e.g., a piece of apparatus which has to be produced more economically. For this purpose, a workroom has been installed in the middle of the workshops which is kept open continuously, day and night, even outside working hours. The unassembled parts of the apparatus to be studied are exhibited there on wall boards (each part bearing a label showing the cost and manufacturing ranges, as well as a special indication for parts bought outside and any other useful details). In this room, "idea books" are also available in which "inventors" can record and sign their suggestions.

Publicity panels and drawings are installed throughout the works, general meetings of the staff, and collective and individual direct contacts with the foreman are arranged. The idea books are consulted daily and, very soon after the Director of the Suggestions Study Department gets in touch with the author. This meeting is systematic and, if an idea is not accepted, the author must be convinced during this interview that there are good grounds for rejecting it. Ideas accepted are submitted to the Technical Department and the Methods Department, always very quickly (within a week or two at the outside), then to the Works Management.

Rewards are granted only up to the grade of chargehand (inclusive). The expected annual saving is calculated and if it does not exceed Frs. 10,000 the whole of this amount is handed immediately to the author ; if it is more than Frs. 10,000 the author receives part, according to a decreasing scale.

It is interesting to note that another problem was also considered: a suggestion for work simplification frequently means a reduction in standard times, which may produce an undesirable psychological reaction from the workers affected and a worker may even refrain from making suggestions because he does not wish to become unpopular. To forestall this twofold danger, workers whose times are reduced receive a share of the expected saving, and the new standard time is increased by 20 per cent (within the limits of the old time, of course).

Intensive use of this method has created a new climate of staff co-operation which is now firmly established in this company. And the number of suggestions now received are incomparably greater than that resulting from the old suggestions box method.

Management News & Ideas

PRINT INDEX SYSTEM CUTS LABOUR COSTS

A PROBLEM facing clothing manufacturers in the administration of long-term "made-to-measure" contracts with industrial and other large organisations is the difficulty of keeping up to date personal measurement records.

The problem for *H. Lotery & Co. Ltd.*, Newport, Mon., was time taken to convert a bulk repeat order into production. By scrapping their original, card index and replacing it with a system of printing on metal plates the company has halved the time spent in collating data and in the process cut labour costs by 50 per cent.

With the original card index system, a card was filed for each person, with measurement details for three garments—jacket, trousers and waistcoat. This information was collated from self-measurement forms completed by the individual. On receipt of a completed form the filing staff of five girls (increased during rush periods) copied the measurements by hand on to the index card. If a complete outfit was ordered three garment tickets were made out, i.e., one each for jacket, trousers, and waistcoat. For repeat orders, the same procedure was carried out, any alterations in sizes which had occurred meantime being noted on the master index card. Garment order tickets were completed by hand, though in some cases the master index card was typed. The completed garment ticket was then sent to the cutting room. With a staff of five it was possible to produce 2,000 garment tickets a day.

The card index system was replaced by metal plates stamped with name and address and measurement details. The filing staff was reduced to two girls (the others were re-employed elsewhere in the factory). One girl is responsible for filing, the other is engaged in cutting the plates and printing the garment tickets. Their output is 3,000 tickets a day. Obsolete information can be blanked out and new details substituted on the metal plates as required. **(Target.)**

Proficiency Badges Keep Labour

BY awarding badges for skill, proficiency and good time-keeping, the Liverpool overall manufacturers, *John Peck & Co. Ltd.*, claim to have reduced the rate of labour turnover. The firm's factory is situated in an industrialised suburb where the competition for labour is very keen and it was found that even a bonus incentive scheme did not solve the problem. Then the firm introduced its military-type insignia. A promising learner is given one stripe while an "improver" gets two stripes and three when she is ready to take her place in the production team. Good conduct earns a red bar and good time-keeping a white bar. A two-colour bar is for good conduct *and* time-keeping, a zig-zag denotes speedy and accurate work and a triangle denotes that a girl is highly skilled. The scheme, says the firm, gives employees a sense of continuity and a more settled outlook.

Pride of rank brings settled outlook.

Desk Efficiency

A SIMPLE and effective method of increasing office productivity is provided by this new desk layout in the production control section of *Rank Precision Industries (B.A.F.) Ltd.*, Michel-dean, Gloucester. Typists sit at L-shaped work positions with machines on shelves which are placed slightly lower than the level of the material

being copied, while the turntable in the centre allows work to flow in sequence from stage to stage without girls having to leave their places. The turntable also provides simple and ready access to reference books required by typists and clerical staff who deal with the typing of requirements, typing of masters, printing of job books and the allocation of raw materials for the production of the firm's cine cameras and projectors.

Profits Shared

SOME interesting figures on profit-sharing in the United Kingdom were published in the May issue of the *Ministry of Labour Gazette*. These show that at the end of 1954 there were 421 schemes being operated in the United Kingdom by 408 firms. The total number of employees covered was 389,433 but in so far as some employees may have participated in two schemes operated by the same firm the net number of participants would probably have been slightly lower. In addition to these specific schemes some 130 arrangements were brought to the notice of the Ministry in which profit-sharing was practised but not under any scheme on a pre-determined basis.

The number of specific schemes recorded in 1938 was 404 covering 261,000 workers in 399 undertakings (five firms each had two schemes). To these must be added 48 schemes (in 45 undertakings) which appear to have been in operation in 1938. It is not known how many workers were then included in these 48 schemes but in 1954 it was 23,843.

If statistics can prove anything, it can hardly be said that the idea of profit-sharing grew like wildfire between 1938 and 1954, though of course the actual money paid out must have increased vastly. On the other hand, if figures for mid-1956 were available they would no doubt show an immense rise, for it is only in the last two years that profit-sharing and co-partnership can be said to have taken hold in large sections of industry. For that reason this journal will next month publish a feature on the various ways of sharing prosperity with the workforce.

'Exchange' Visits

THE Chairman of the London Stock Exchange, Sir John Braithwaite, wants to encourage more visits by industrial groups—from factories and allied offices—to the Exchange's public gallery. Saying this at his Annual Meeting recently, Sir John disclosed that 178,000 visitors had passed through the gallery since it was opened in November, 1953.

The Council of the Stock Exchange go out of their way to help a wider understanding of the Exchange's work and its part in the national economy. The public gallery is open to all from 10.30 a.m. to 3 p.m. each business day. Organised visits usually begin with a half-hour background talk by a senior official, followed by twenty minutes or so in the gallery to watch business being done in the "House".

Application for visits by parties should be made to the Secretary, the Stock Exchange, London, E.C.2 giving as much notice as possible.

Strange Values

WHEN the Minister of Labour commented at the National Industrial Safety Exhibition last May on "the strange sense of values" often shown by national newspapers he could have produced much more evidence in support of the claim than perhaps he realised. Mr. McLeod confined himself to the fact that strikes were front page news while the much graver toll of sickness and accidents hardly got a mention.

Sometimes, however, the national Press discovers, almost to its own surprise, that there are things going on in industry besides strikes. One of the latest examples was the announcement on June 6 by the *News Chronicle* of its "Factory Jackpot" scheme under which prizes totalling £2,500 are offered for productive ideas from the shop floor. Accompanying the announcement was a centre page article dealing with cash for ideas and suggestions very much as if this were something new.

The *News Chronicle* idea is a good one, therefore better late than never. It is none the less irritating when the stories that industry can provide are either ignored or put in cold storage until they can help in a circulation drive or become a national issue. The example par excellence is of course automation. In March, 1955, the Institution of Production Engineers held a Press conference at which correspondents and reporters were told that automation was on the way. It got a few mentions the next day and never again achieved prominence until the strike at *Standard's* a few weeks ago. It is an old and valid observation that the sorrier side of human nature is always much better copy than the good. But today the Press could do the nation a large favour by using its ingenuity to feature the solid yet unsensational progress being made by industry as one of the most important facts of the second half of the twentieth century.

The Successor Pool

A FASCINATING report has recently been published by the Acton Society Trust at 10s. 6d. under the title of *Management Succession—The Recruitment, Selection, Training and Promotion of Managers*.

This report is the result of a two-year study of management succession and development in 50 of the largest private manufacturing companies in this country.

The first part analyses the education and careers of over 3,300 managers in 27 of these companies. It tries to answer such questions as: "How many of the managers came up 'the hard way'?" "How many are graduates?" and "What aspects of a manager's background have been advantageous or disadvantageous for promotion to middle and top management?"

The main body of the report discusses how these 50 companies try to recruit, select, train and promote their managers: what problems they have met in doing so and how they try to solve them. It examines such questions as: "Should there be a systematic policy for management development?" "Is it possible to forecast future management requirements?" "How can you spot talent in a large organisation?" "Should there be early selection and training of potential managers?" "How can graduate wastage be reduced?"

The last chapter is called "How It Looks from Below", and discusses the views of manual workers and junior staff in five of the companies, on promotion policies and practices.

Operation Elephant

MR. PETER CADBURY, a grandson of the founder of *Bournville* and director of a theatre-ticket agency, has devised a service to help over-worked businessmen who cannot remember their wives' birthdays. It is called "Operation Elephant"—elephants, of course, never forget. He invites the public to send cards to his organisation giving a list of dates they have to remember. His agency will send them reminders a week before they fall due. If subscribers want more help it will provide various kinds of presents or arrange entertainments.

WANTED!

Some Skills and a Faith

On Keeping up with Economic Change

THE subjects we have started to discuss on this page during the past few months seem to me to raise some of the most fundamental issues which face our industrial society today. People concerned with industrial affairs—managers, supervisors, technicians, salesmen, functional specialists, trade union officials, shop stewards, rank and file workers—have just passed through a tremendous social upheaval. Full employment, coupled with the social revolution which we now describe as the "welfare state", have made many long established concepts of industrial behaviour obsolete and inappropriate. But traditional attitudes, traditional patterns of control, traditional ways of reacting to control, die hard. People's feelings and sentiments lag behind economic change if the latter comes swiftly and attitudes cannot be changed by Act of Parliament. So we have, in many parts of British industry today, a typical example of what sociologists term "the culture lag". Managers and the people they manage are alike uncertain of themselves. Lacking a clear conception of the new attitudes and skills which this revolution requires, both sides often fall back on the old methods which are no longer adequate. Industry urgently needs a breathing space so that it can rethink old problems, regroup old alliances, and retrain traditional attitudes.

It looks, however, as if this respite will not be granted. A fundamental and far reaching technological revolution is following with ever accelerating momentum on the heels of the recent economic and social upheaval. The effect automation is already having on people's feelings and attitudes is apparent in recent industrial events—and this is the first trickle of a new force whose power none of us can yet attempt to gauge. Is the spirit of man flexible and great enough to keep up with these material changes?

Our recent discussions on such topics as courses for executive development, on the need for "well rounded tycoons," on the rights and duties of workers, on discipline and morale, show evidence of our uncertainty; they show too that people throughout the country are thinking about these fundamental concepts and are beginning to see many old subjects in a new light. Can we analyse what some of our needs are and also some of our assets?

In a challenging letter, Mr. Alan Bird, personnel manager of *Price Brothers & Co. Ltd.*, Wellington, Somerset, says that what we need is a rediscovery of faith. He says:—

IF it is true that we, as a nation, have lost our aggressive tendencies, I for one will not mourn. Aggression, based on the theory that might is right, inevitably brings destruction in its wake, and although to the aggressive individual and nation it may seem to bring victory through the release of repressed energy, it does so only at the expense of suppressing others. There is no ultimate victory in this.

I suggest that aggression and its supposed repression in the British nation is not the root cause of our apathy and lack of initiative. Our victories in the past were based on a firm belief in our ideals and way of life, and because of this belief we succeeded and propagated our faith. We believed in ourselves, we had confidence, and so we conquered. Now, as individuals and as a nation we expect defeat, and so we reap it. We have lost our vision because we no longer work together as a team; we lack pride in our nation, in our products, and even in our own workmanship. We are concerned only (whether as workmen or company directors) with what "we can get out of it".

Ralph Waldo Emerson said "A man is what he thinks about all day long". Our attitude to life, to our work, and to ourselves is wholly negative. Surely one evidence of this is the fact to which Mr. Gorer draws attention when he says we expect to criticise and to be criticised rather than to praise and to receive praise.

Leaving the national issues aside we see the Americans and the Russians succeeding in the industrial field because they have a supreme confidence in themselves. They each have a faith, materialistic though it may be, which is bigger than their own self-interest. They are virile and positive, natural inheritors of the pioneering spirit which filled the minds of our one-time explorers and inventors.

Perhaps it is because we are becoming a nation of "old timers". People who like to recall the glories of their youth, people to whom there is no future, but only a past. Youth, on the other hand, in spite of all its brashness, looks forward; it has enthusiasm, energy and idealism; it is not hidebound by old methods and old ideas; in short, it has faith.

What is the remedy for this situation? Can an "old man" be reborn? A very old book gives an answer to this question. A Jewish ruler asked the same question of Jesus Christ. We need a rebirth of spirit; we need to bury the past and to re-think the future. We need a belief in an authority greater than ourselves, we need a belief in our country, we need a belief in our capacity to produce the best, both in goods and in human relationships. We need a faith, the faith which made us a great nation, and which, even today, can remake each one of us into vital and positive citizens of a country with a future!

WHAT ARE THE BARRIERS?

Symptoms of Disharmony

WHAT do other people think about this? Do you agree with Mr. Alan Bird? What do you feel are some of the barriers which prevent people from holding the positive attitudes described so well by Mr. Bird? Why, for example, are we having a continuous flow of strikes in a variety of different industries—strikes which often occur over issues unconnected with pay? To quote three recent examples: 125 boilermakers at the works of *Thomson Bros. (Bilston) Ltd.* went on strike because they claimed the management persisted in refusing to recognise their two shop stewards; 25 paint sprayers struck at *Briggs Motor Bodies*, Dagen-

ham, complaining of inadequate ventilation in the spray booths; young miners at two Yorkshire pits went on strike after their request that the afternoon shift hours should be changed so that they could see their girl friends in the evening, had been refused. Strikes are one symptom of disharmony, frustration and social unbalance. Excessive labour turnover is another. Apathy and go-slow tactics are another.

What positive steps are you taking to prevent these negative feelings and reactions on your staff? How can this "belief in our capacity to produce the best, both in goods and human relationships" be fostered? Automation, for example, is going to affect the use of piece-work systems, which has been one of the traditional management methods of maintaining the will to work. What will take its place? Automation will breed (and already is breeding) feelings of job insecurity.

How are individual managements preparing for the inevitable reactions? Let us hear your views and experiences on these vital topics.

DISCUSSION LEADER writes in these pages every month. The feature is a platform for the ideas of all our readers. A guinea is paid for each letter published, and the more challenging your views, the better.

We have already discussed one of the positive steps—that of training executives in new management skills, which many managements are taking to help solve some of these pressing problems. Many firms see a well educated and flexible management team, trained in the skills of human relations, as *the* basic requirement for the future. In this connection two far-sighted schemes have come to my notice recently. *Rolls Royce* have devised a scheme to help their monthly paid employees to pay the school fees of their children. *I.C.I.* have given scholarships for arts graduates to enable them read science afterwards and have endowed 50 scholarships for school children who have specialised in the humanities and who wish to study science at the university. Here are training schemes for the leaders of the 21st century—but our present training problem is still acute, for, as we said earlier, we are still not sure of the methods managers should be using to cope with these many new circumstances.

What Should Office Girls Be Paid?

A London employment agency recently published some very valuable figures on what constitutes a sensible salary for female office workers. The firm's findings are published in full and can be taken as a guide by both London and provincial companies if it is borne in mind that office girls' salaries in the provinces tend to be about 10 to 15 per cent. lower.

A VERY interesting employer's guide to average salaries has been published by a London employment bureau, *The Challoner Service* of Oxford Street, W.1. Entitled *What Is a Sensible Salary?* the guide begins by stressing that, like our language, salaries are determined by usage and circumstance rather than by a set of hard and fast rules. One firm will, for instance, offer a secretary of virtually no experience £10 per week while another will consider £8 more than adequate for the equivalent job. In the boom conditions of today the most a statistician can really do is to provide some sort of yardstick.

"Everywhere", says the guide, "one hears the cry 'Good staff are impossible to get today'. Why? It is too much of an over-simplification to say that the younger generation are no match for the older one. Much nearer the truth would be the admission that we are a temporarily ageing nation and, as a result of the 1939-45 war, passing through a period in which the requirements of industry and commerce generally far outstrip the number of recruits available.

"Unhappily, for employers, even if the present expanding economy should falter in the immediate future, it is not likely to affect the London staff situation materially—at least until the effect of the post-war increased birth rate begins to be felt. That is to say, until 1961 or 1962."

The guide goes on to make the point that since there are not enough good recruits to go round, those that are available can pick and choose their jobs at will and others too can choose often regardless of ability. This situation is still further aggravated by the continual rise in the cost of living since the war. Higher travelling costs brought about by constant fare increases have done much to encourage prospective staff to look nearer home for their work and this, in turn, has inevitably meant a reduction in the numbers available in the West End and City.

The main effect of all this has been the strongest possible competition for staff by firms in these areas, and this is reflected in the increasing number of inducements which are offered to staff over and above increased salaries. Luncheon vouchers, shopping discounts, bonuses and increased leisure hours are among the most typical.

The lack of new recruits has meant, moreover, that young staff in particular to whom the virtues of thorough training and loyalty have little appeal (sic) have become the most difficult to get and to hold. The natural effect of this has been a sharp lessening of the wage differential between junior and senior staff. A junior shorthand typist at the age of 16 and without any experience at all can today comfortably command £5 10s. a week—a rate of pay which would have been impossible even during the immediate post-war years.

For firms anxious to get, and hold, the best staff value for the salaries they pay, there are two main solutions, say *Challoner*.

The first is to adopt a more enlightened attitude towards the older woman who

FEMALE STAFF	Age	SALARY
First Class Secretary Shorthand Typists, with or without languages	25	£10 0 0 up
Capable Secretary Shorthand Typists *from*	23	£ 8 10 0 to £9 0 0
Senior Shorthand Typists ,,	20	£ 7 10 0 to £8 10 0
Shorthand Typists ,,	16	£ 5 0 0 to £7 0 0
Clerks ,,	24	£ 7 0 0 to £8 0 0
Clerks ,,	18	£ 5 10 0 to £6 10 0
Junior Clerks (when available) ,,	15	£ 4 0 0 to £4 10 0
Dictaphone Typists		£ 7 0 0 to £8 0 0
Copy Typists ,,	21	£ 6 10 0 to £7 10 0
Copy Typists ,,	16	£ 4 10 0 to £6 0 0
Invoice, or Statistical Typists (fully experienced)		£ 7 10 0 to £9 0 0
Book-keepers, fully experienced to Trial Balance, with or without typing		£ 8 0 0 to £9 0 0
Ledger Clerks		£ 6 10 0 to £8 0 0
Machine Operators, fully trained		£ 7 0 0 to £9 0 0
Telephonists, G.P.O.-trained and fully experienced, for large, busy Boards		£ 7 0 0 to £7 10 0
Telephonists, for 3 or 5 line Boards, usually including clerical and/or typing duties		£ 5 0 0 to £6 10 0

is, anyway, more experienced, often more reliable and trustworthy and almost always more settled and loyal once established in a job. The often heard criticism that the over forties are "too set in their ways" is by no means true in the majority of cases.

The second is to appoint someone with an intimate knowledge and understanding of human and personal relations in charge of their staff problems. Too often this is a responsibility thrust upon an already overworked executive, or short-tempered senior secretary with neither the time nor the inclination to appreciate that often an apparently trivial or illogical complaint may, upon investigation, not only be fully justified, but also responsible for many of the firm's staff problems.

Of the two, *Challoner* believes the second solution to be the more important—for good staff relations, by which we mean the whole problem of keeping staff happy and interested in their work, are vital from the lowest to the highest grades.

Attractive Surroundings

A third point is that the progressive firm with an up-to-date outlook who realises the value of attractive working conditions, such details as, the decor of an office, the placing of a typist's desk (how many girls sit facing a dull wall sadly in need of a coat of paint for 52 weeks in a year !), good lighting, an enlightened approach to personnel problems and a general awareness of their staff's happiness, is the only firm to-day with a small staff turnover and a constantly satisfactory standard of work within its organisation.

The table at the top is a yardstick of the salaries now being paid in the London area for various office jobs for women.

Three examples are given of types of female office worker. At the top comes the first-class secretary/shorthand typist. This girl is described as the one "who is really on top of her job in every way". Confident and capable, she is also able to administer staff as well as do her own job in exemplary fashion. She may have one or two languages at her command as well. Such a girl is, unfortunately, rare and as a result her current market value is a minimum commencing salary of £520 a year.

Next comes the capable secretary who is equally efficient but with perhaps slightly less experience. This girl is still much sought after by those firms who place great emphasis on reliability and efficiency. She can ask—and get—between £8 10s. and £9 a week without the slightest difficulty.

Third comes the efficient copy typist "possibly the most difficult category of all to fill satisfactorily". The copy typist of today is more often than not self-taught and hence slow and inaccurate. The job itself, although important, seldom offers any prospects, is inevitably routine and is rarely filled by anyone with a real desire "to make a career". Figure work, often an integral part of a copy typist's duties, is another deterrent. It is not popular so that any girl willing to do figures, and who has an aptitude for them, can command a much higher salary than the average which, for straightforward copy work, is between £6 10s. and £7 10s. a week. Figure typists, according to the requirements of the job in question, can command between £7 10s. and £9 a week.

First Exams For The Private Secretary

THE first examination for the new Private Secretary's Diploma to be awarded by the London Chamber of Commerce was held last month and attracted 165 entries from all over the country. There were six centres in London and ten in the provinces at Birmingham, Manchester, Liverpool, Oxford, Durham, Gloucester, Middlesbrough, Portsmouth, Port Talbot and Redditch.

The examination seeks to establish an essentially practical test to ensure that the holder of the Diploma is not only fully competent as a shorthand typist but also has the additional qualities needed in a good private secretary.

An important feature of the examination, says the Chamber, was the personal interview of candidates by panels of business men. That so many leading executives should be prepared to devote their time to serving on those panels gave "some indication of the value which will be attached to the diploma by employers seeking a private secretary".

It will be impossible to judge the quality of the entrants until the results are known, but the Chamber was in no doubt that there was general appreciation of the high standards expected, and that many of those who took the examination were already experienced private secretaries who welcomed the chance of securing a diploma that would carry with it proof of their competence.

6-Hour Day for Youths

MOSCOW radio recently announced that the working day for young people between 16 and 18 has been reduced to six hours under a Government decree. The reduction will come into force in July and the pay of youths working a six-hour day will be the same as when they worked eight hours.

A Practical Guide to the Factories Acts—2

By V. A. BROADHURST

Legal Requirements for Healthy Working

The second feature of our series discusses the main requirements of the law in the matter of healthy working environment and protection against industrial diseases. In all cases the Factories Acts lay down minimum *standards only. The progressive firm improves on these.*

"EVERY factory shall be kept in a clean state" proclaim the first words of the Factories Act. Probably no other Act of Parliament has started on such a hygienic note. This demand for cleanliness is legally an absolute requirement. There are no ifs and buts, no exceptions.

In addition to and independently of this requirement, the Act says that factories must have their internal walls, ceilings, partitions and the like redecorated periodically. If this takes the form of suitable painting the frequency with which it has to be repeated depends on the type of paint used. Unless the redecoration takes the form of a fourteen-monthly colourwashing or whitewashing (dismal thought !) these walls and other internal parts of the structure must also be washed down or cleaned at least once in every fourteen months.

People of keen perception (or possibly merely of sensitive noses) sometimes suspect that this part of the Act is not always fully observed. A new managing director was appointed to one concern. He looked round the factory and ordered a clean up. As a result, 100 tons of scrap metal and 150 lorry loads of rubbish were removed from the premises.

Not only should a workroom be clean but it should also be properly lighted. The temperature should be reasonable and fresh air should be circulated. There should be no overcrowding. These are the fundamental demands relating to the general physical environment.

In a few industries actual temperatures are laid down as being essential minima. The generality of industry has to conform to the requirement of a "reasonable" temperature, however. The British climate has a pronounced wintry bias but there are such things as hot days. What is more to the point, there are some hot processes in industry. Persons engaged in such processes are protected by the Act just as much as workers in ice factories.

As for the meaning of "reasonable" in this context, students of High Court cases will perhaps know that the Courts have done little to enlighten us. The dictionary says that it means moderate which, in its turn, means avoiding extremes.

Many people are frightened of fresh air and indeed a surfeit of it in the wrong place can be unpleasant. A draught is ventilation which hurts. The Act asks for the adequate ventilation of a room by the circulation of fresh air. Slap-happy ways of arranging the air inlets and outlets may have to give way to more considered methods.

A notice specifying the number of persons who may lawfully be employed in a workroom at any one time should generally be posted up in each such room. In making the calculation, the cubic capacity of the room needs to be measured but no height above fourteen feet from the floor may be counted. The figure so obtained should be divided by four hundred and the result is the legally permissible number. In other words, there must be at least four hundred cubic feet per person in every workroom. In a few industries where there is a special health risk a higher standard prevails.

Lighting

A lot of material has been published about lighting in industry. (Some of it should never have seen the light of day.) The points to remember as far as the Factories Acts are concerned are that the lighting should be adequate and suitable and that it should not only be provided but it should also be maintained. **These requirements refer to natural as well as to artificial illumination.** Windows should be kept clean from the point of view of lighting as well as that of general cleanliness.

A certain factory was doubling its size by having an extension built on to it. This extension was an exact replica of the older part and had similar roof windows. As soon as the extension with its smart new windows was opened everybody noticed that it was much lighter than the other part of the factory. Two and two were rapidly put together and it was realised that the windows in the roof of the old shop were deplorably dirty.

Dust Control

Precautions have to be taken to protect persons employed in factories where harmful or offensive dusts, fumes or other impurities are given off by any processes. Effective steps must be taken to prevent anyone employed from inhaling these noxious substances. Where practicable this means the use of mechanical extraction apparatus—fans, ducts, hoods and similar appliances. The apparatus should be so designed and arranged as to extract the dust or other impurity at source as far as possible. Having gained control of the process dust or impurity, care should be taken to remove it from the factory. There are many types of ventilating plants for this purpose.

In rooms where poisonous substances are used in such a way as to produce dust or fume, workpeople must not eat or drink. There must be no cups of tea amid the arsenic. During mealtimes persons employed should vacate such rooms. In all such cases suitable provision for taking meals elsewhere in the factory should be made.

Certain precautions have to be taken when work has to be done inside a tank or other confined space in which dangerous fumes are liable to be present. Persons entering the tank must wear suitable breathing apparatus. Suitable belts and ropes and reviving apparatus are needed also, all apparatus should be examined every month and written records of the result of examination should be kept. A few months ago a man in the Midlands lost his life when he was trying to rescue another workman overcome by fumes inside an oil storage tank. This sad incident is one of many which have occurred and have been publicly reported.

Eye Protection

A subject which has received more publicity than most is that of eye accidents in industry. Eyes are particularly vulnerable to damage but as the Chief Inspector of Factories pointed out earlier this year, most eye injuries would be prevented by the wearing of goggles but we as a nation lagged behind the Americans in the wearing of protective gear generally. Under the Act there is a list of processes for which specified eye protection is required to be provided and used. It includes such processes as the common ones of dry grinding metal articles and electric arc welding. Either suitable goggles or effective screens fulfil the requirements given that they are not only provided but (strange as it may seem) used.

6 FACTORY HEALTH POINTS

1. ***A healthy factory means a clean factory.***
2. ***Every workroom must have at least 400 cubic feet for each person; no height above 14 feet may be counted.***
3. ***Workpeople must not eat or drink in rooms where poisonous substances are processed.***
4. ***The Factories Acts list the processes for which eye protection must be used.***
5. ***Young people under 18 are not allowed to lift or handle objects over certain weights.***
6. ***Women and young persons are not allowed to clean rooms where lead processes have been carried on.***

The lifting, carrying or moving of excessive weights by young persons under eighteen years of age is prohibited. This is a general requirement applicable throughout industry. Actual standards in the form of maximum loads are set in certain industries. In some trades maximum loads are also set for men and women.

Industrial Diseases

A matter of obviously great importance under the heading of health is that of industrial diseases to which reference was made in the previous article. Approximately 500 cases of industrial diseases were notified under the Factories Acts in 1954, the last year for which figures have been published. Nearly 400 of these were accounted for by two diseases only. They were chrome ulceration (220) and the more serious epitheliomatous ulceration (173). In prosaic non-medical circles the latter would be artlessly described as industrial cancer.

Forty and more years ago the great scourge was lead poisoning but a striking change has come over the industries which use lead. In forty years the annual number of cases has been reduced from 500 to 50. During that period a number of safety codes directed against lead poisoning have been made and enforced. A small number of lead processes still have an extra special risk and in such cases there are extra precautions required. In some cases women and young persons in these processes have to have periodical medical examinations. In a few cases the Act goes as far as to prohibit their employment. An example is the melting of scrap lead. An interesting prohibition is that which says that women and young persons must not clean rooms where specified lead processes have been carried on.

Dutch Probe Worker Morale

AN interesting stage has been reached in an investigation into the morale of employees which has been quietly but efficiently pursued in Holland as part of one of the projects financed by the Government. A team of eight social scientists and efficiency engineers worked out, among other activities, two questionnaire forms. In a pilot distribution, 3,000 have been distributed to the entire staff of selected firms; and the results have been checked and cross-checked. The body responsible for the project is the Netherlands Institute of Preventive Medicine.

The questionnaires are brief and intended to highlight several areas of problems latent in factories, departments, etc. It will yield only an over-all insight into some aspects of morale. In the firms selected every single employee receives an attractively bound booklet with a two-colour cover reading "What do you think of your job". Inside he finds 32 questions, opposite each of which are spaces for him to put a tick under "yes", "no", "no opinion". The items are phrased in the form of simple statements rather than questions, such as:—

"My work is too monotonous.
This is a good firm to work in.
My foreman is too fussy.
At the end of the day I still feel quite fit.
Co-operation between our departments could be better.
I think I get a fair wage in comparison with the others."

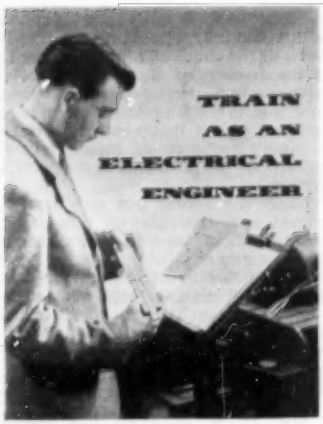
At the back, space is provided for additional comments, and it has been found that one-third of the recipients make use of this.

Much is made of the need to introduce and explain the questionnaire at all levels in the firm before attempting to distribute it. The first step is to persuade the managing director that when the answers have been analysed it will be possible to give him a fairly accurate picture of morale, not only in the firm as a whole but also department by department. Latent discontents and antagonisms may be revealed and he may thus have a chance of taking corrective action before they come to a head. Indeed, it is necessary to explain to management that once the men have put their feelings on paper they will certainly expect the management to make some changes. This is borne out by the fact that during the first phase, and although it was carefully explained that the scheme was still only in the exploratory stage, foremen and workers would come up to ask "what happens next?" or "When do we see the results?"

Management is likely, too, to be interested in comparisons between the results for their firm and those for firms of comparable size and structure. It would be particularly interesting to compare figures for absence due to sickness, alongside the respective morale ratings.

The next step is to explain the scheme to a representative assembly of the employees. This normally consists of all department heads and foremen together with the workers' nominees to the Works Council. Here it is important to begin by convincing them that their anonymity will be strictly preserved. A large number are quite easily convinced, but others, particularly in the higher echelons, fear that management will somehow be able to "pinpoint" them. **(E.P.A. Bulletin.)**

PEOPLE AT WORK



To stimulate interest in their apprenticeship training facilities, the **Lancashire Dynamo Group** recently published a new training brochure. Here is its cover design.

Careers Guide

AN up-to-date Careers Guide* giving details of over one hundred occupations and professions has been published by the Ministry of Labour and National Service.

The professions range from agriculture to town and country planning, colliery management to meteorology and include some unusual ones like oil prospecting and mycology. The different branches of engineering, social work, business management, catering and medicine are covered. Music, dancing and dramatic art are included and, in addition, there are details of opportunities for both men and women in the three branches of H.M. Forces.

The Guide also shows where there are current shortages of recruits. There is an increasing demand for metallurgists, and there are shortages for accountancy, actuarial work, dentistry, home teachers for the blind, mental health workers, moral welfare workers, prison and borstal officers and speech therapists.

It is intended to help young men and women in their choice of a professional, technical or business career, also boys and girls still at school and their parents and teachers.

* "Careers Guide" obtainable from H.M.S.O., or through any bookseller. Price 3s. 6d. net.

Beginner's Luck

A 65-year-old skilled electrician wrote anonymously to the Press complaining of his inability to find work. The editor concerned agreed to the suggestion of a local employment exchange Manager that the man should come to see him. He was interviewed, and the following day placed in his own trade. This was the first contact he had ever had with an employment exchange. (**Industrial Welfare.**)

BLACK GROWTHS

FOUNDRIES that are like "complete black holes of Calcutta" are sprouting up all over Britain, according to Mr. Arnold Hardy, an executive member of the Amalgamated Union of Foundry Workers. He told delegates in conference at Llandudno recently that the foundries were housed in disused railway arches and old corrugated iron huts in spite of legislation concerning the health and safety of workers. One trouble was that there were only 380 inspectors for 200,000 industrial establishments.

"It is almost an impossible task to modernise these slum factories or even to get to know all of them, as most of the people working there are non-trade unionists", he said. The conference passed a resolution calling on the Government to reinstitute a system of licensing control with regard to the building of new foundries.

Our Work Force

THE number in civil employment in Great Britain at the end of April, 1956, rose to 22,980,000—30,000 more than during March. By May 14 unemployment had fallen but the number was still 14,000 more than a year previously. Expressed as a proportion of the number of estimated number of employees unemployment in May was 1.1 per cent compared with 1.0 per cent in May, 1955.

Wives and Shifts

THE probability that continuous shift working may become more common with the increasing introduction of automation lends interest to a study of the attitude of wives towards week-end working by their husbands which has been carried out by a research team from the University of Liverpool social science department. The results of the enquiry are described by Miss Olive Banks in a paper in the latest issue of *Occupational Psychology*, published by the National Institute of Industrial Psychology.

The research team interviewed the wives of 73 process workers who, as a result of a change in shift systems, were required to work most weekends and take their day off during the week. The change had taken place some time earlier so that they had had time to get used to it.

Few of the wives found that their domestic routine had been upset once they had adjusted themselves to the new arrangements, but about half said they had been affected for the worse by the change in their social life and in the lack of time at home with their husbands. Families with children could not go out together at weekends nor on the husband's day off if it were a school day. Similar difficulties arose for childless couples if the wife were out at work on weekdays.

Apart from these difficulties the women showed an attachment to the weekend as the proper time for leisure. Such practical reasons are given as the organisation of public entertainment, the convenience of visiting friends at weekends, etc. There were also less tangible reasons such as a liking for "crowds and fun" which could not be found on a weekday. Some of the husbands and wives had entirely given up going out together rather than use the weekday off. "The days seem long on Saturdays and Sundays", is recorded as a frequent comment.

Miss Banks suggests that the probable extension of continuous shift working in industry may get people out of the habit of looking to the weekend alone for recreation, and public entertainment may be spread more over the week. On the other hand, it will make it difficult for a family to associate regularly with a small group of friends, and manual workers will tend to resist the inconvenience of the system as long as "white collar" workers still have their free time at weekends. "It is clear", she writes, "that the general antipathy to weekend work springs from several sources, and efforts to mitigate its impact could not pursue a single course".

MODEL OFFICE

A novel way of arousing employee interest in the product they help to produce was tried out recently by **Lever's Cattle Foods Ltd.** Eight girls from their Bromborough offices were selected to model in a mannequin parade, of **Ardil** blended fabrics. For six weeks the girls shown here gave up two evenings to receive instruction from the representative of a model agency.

Fighting Loneliness

A NOVEL scheme for bridging the gap between full-time employment and the loneliness of retirement has been working now for three years at the premises of *Wormalds and Walker Ltd.*, blanket manufacturers, Dewsbury. This problem occurs in every firm and most employees are faced in late life with continuing the strain and stress of full-time employment or retiring with its problems of existence.

At this firm the Key Club is an answer to this complicated problem. For the Club is a department in which people having worked at the firm for more than 25 years can obtain work for three days a week, manufacturing rugs, bed jackets, soft toys and similar articles. The products are sold annually. In this way the employees are not entirely dependent on their old-age pensions.

Writing Economies

MORE than $70 million were lost by American business last year because of illegible handwriting. In order to combat that loss a programme of re-education in handwriting has commenced and is being organised by certain business houses in the U.S. In an effort to standardise handwriting and simplify deciphering problems the Illinois *Bell Telephone Company*, for one, hired the services of a handwriting expert to advise and possibly find a solution. Adopting a streamlined printing method of writing each letter, designed to be written without taking the pen off the page, classes were organised in its instruction throughout the company. This alphabet is apparently being gradually adopted in schools and businesses throughout the country. It is designed so that it is practically impossible to mistake one figure or letter for another. Small letters in ordinary writing take 73 strokes to the alphabet while in this system there are only 33.

Workers Train Workers

USING full-time instructors chosen from among their own skilled workers, *Kenrick & Jefferson Ltd.*, high quality stationery manufacturers, have set up a training scheme for girl operatives at their West Bromwich works. The scheme at present covers two classes of workers: girls on collating and gumming machines operators. In each case the job is broken down so that trainees are taught each essential movement or skill in the proper sequence. Practical training is supplemented by talks on both the theoretical aspects of the work and matters of general interest. Before each course aptitude tests are used to put the right girl in the right course.

In the case of gumming machine operators one of the most important skills is the co-ordinated rhythmic movements of the hands and feet in the feeding of the paper and the treadling of the gumming bar. Hence trainees are taught on a machine equipped with a pressure-operated switch that controls a buzzer. A steady sequence of buzzes tells the trainee that she has acquired the necessary rhythm.

Under this system new girls are being trained in a much shorter time and the firm benefits in two ways. First, foremen and chargehands (who formerly undertook the training) are now able to devote all their attention to their jobs; second, labour turnover has been much reduced, while trainees benefit by being able to earn bonus several months earlier.

30,000 Suggestions—6,000 Awards . . .

HOOVER LIMITED have increased the scale of awards of their suggestion scheme; in future awards of up to £250 will be made to employees submitting useful suggestions. Awards are made to employees for successful suggestions leading to improvements in the company's products, production methods, office and administrative procedures as well as for improvements of safety, saving of materials and elimination of waste. The company has operated a suggestion scheme for over 20 years during which time more than 30,000 suggestions have been made by employees, of which more than 6,000 have won awards.

Hoover employees show interest in the new scheme.

APPOINTMENTS . . .

MR. H. B. BOYLES has been appointed personnel officer and recruitment and training officer in the newly formed personnel department at *Mac Fisheries Ltd.* **MISS E. HIDE** has been appointed as his assistant, especially responsible for women's recruitment and welfare.

SIR GODFREY INCE has been elected president of the British Association for Commercial and Industrial Education, in succession to **SIR ARTHUR FLEMING.**

Mr. F. R. LIVOCK, T.D., B.Sc.(Eng.), M.I.E.E., M.I.Mech.E., has been appointed director of the British Institute of Management. He succeeds the **Hon. L. O. RUSSELL** who resigned as director last December with effect from June 30, 1956. Mr. Livock, who took office on July 1, was born in 1908. He joined *G.E.C.* in 1933 and after the war was appointed Controller of the firm's education and personnel services. He joined *Metal Industries Ltd.* in 1953.

MR. S. D. McDONALD and **MR. G. L. PEACE** have resigned from the Work Study Unit of the British Productivity Council to join the staff of Sundridge Park Management Centre and the United Nations Technical Assistance Administration respectively. **MR. C. W. H. JONES** and **B. D. WAKEFORD** will be replacing them in the Work Study Unit.

SIR HARRY PILKINGTON, chairman of *Pilkington Bros. Ltd.*, and a director of the *Triplex Safety Glass Co. Ltd.* is to succeed **LIEUT.-GENERAL SIR RONALD WEEKS** as chairman of the National Advisory Council on Education for Industry and Commerce.

* * *

Miss Muriel Crawford, personnel officer at the mill department of *Baxter Brothers & Co. Ltd.*, flax manufacturers of Dundee, has been awarded a £300 bursary for management studies by the Institute of Personnel Management. The scholarship is tenable for one year's full-time study at a British college and Miss Crawford has chosen the Manchester College of Technology or the Scottish College of Commerce, Glasgow.

How Low Can Canteen Prices Be?

and still need no subsidy

By WINIFRED McCULLOUGH
Senior Canteens Adviser, Industrial Welfare Society

This article can be taken as a starting point by the small firm that can either afford no canteen subsidy at all or only a very small one. The figures quoted are also of value to the larger concern as a yardstick of how efficiently it is operating its catering department even when much of the outlay is met by a subsidy.

FOR the purposes of this article we will speak of a small canteen —one that serves about 100 cooked meals a day and has no shift or night meals to provide. We will assume, too, that the firm is willing to provide premises and heavy equipment, also lighting and heating of premises, and that it will not change the canteen account with any proportion of depreciation or administrative charges.

Before we consider the lowest possible price of unsubsidised meals we must be sure the meals themselves are not asked to subsidise any other employee amenity. If there are cheap meals for juniors or free meals for visitors or meals provided for overtime workers, they must be credited at the usual price. If there are "special" trays for executives and separately cooked meals for directors, they must be credited at the food cost *plus* the real cost of labour and materials involved. If there are trolley services to distant points and odd meals at odd hours necessitating overtime by canteen assistants, these also must be realistically assessed and credited. What is loosely termed "subsidy" is sometimes the unavoidable cost of uneconomic service. It might, however, be mentioned by the way that these uneconomic services are in some cases not of real value and can be discontinued without hardship.

Employee catering is a simple manufacturing problem. Raw materials must be purchased, stored, processed by people and by plant and delivered in good condition at the right time to the consumer. Like other goods they must be safeguarded from damage, theft and extravagance. They must be as varied as taste and conditions demand and they must be sold in an atmosphere that makes the new customer venture in, and the established customer come over and over again.

The costs are:—

(1) Consumables, i.e., food and cleaning materials.
(2) Labour, including management and supervision.
(3) Fuel for cooking and heating food and operating kitchen machines.
(4) Utensils, uniforms, stationery.
(5) Laundry.

The cost of food is the easiest of all to assess. Below are given a few costed menus from actual canteen operation; these are based on average retail prices:—

1. Roast Lamb, Mint Sauce
   Spring Greens
   Roast Potatoes 13.8 pence
   Bakewell Tart and Custard 3.5 pence

2. Beefsteak and Kidney Pie
   Braised Carrots
   Creamed Potatoes 9.3 pence
   Fruit Trifle 3.3 pence

3. Hamburg Steak with fried onion garnish
   Tomato Sauce
   Scotch Kale 11.4 pence
   Gooseberry Sponge
   Vanilla Sauce 4.5 pence

4. Cold Roast Beef
   Mixed Salad with Dressing
   Creamed Potatoes 15.6 pence
   Steamed Raisin Pudding
   Golden Sauce 3.0 pence

5. Fried Fillet Fresh Haddock
   Green Peas
   Chipped Potatoes 13.5 pence
   Rhubarb Pudding & Custard 4.2 pence

Main meals on the average account for about half the income of a canteen, the other half being pretty equally divided between beverages and cakes and filled rolls. Up-to-date costings

New, specially designed lighting fittings are an interesting feature of the recently modernised works canteen at the Stork margarine factory of Van den Bergh and Jurgen Ltd., Purfleet, Essex.

TABLE OF COMPARATIVE MENU COSTS

	Food Cost	Labour Cost	Sundries	Selling Price
Menu 1	17.3	6	1.5	2/1d.
Menu 2	12.6	6	1.5	1/8d.
Menu 3	15.9	6	1.5	1/11½d.
Menu 4	18.6	6	1.5	2/2d.
Menu 5	17.7	6	1.5	2/1d.

per gallon for tea and coffee are as follows:—

Tea	16.9 pence
Coffee (1 part coffee 1 part milk) pure coffee	48.6 ,,
Coffee (2 parts coffee 1 part milk) coffee and chicory	37.8 ,,

And one or two examples of snack costings are also given:—

Cornish Pasty	4½d.
Whole Tomato and Egg Sandwich	5½d.
Cheese, Butter and Biscuits	3d.
Cheese and Bacon Roll	3d.
Sausage Roll	4d.
Cheese and Onion Patty	5½d.
Bacon and Egg Pie	5d.
Sardine Toast	5½d.

The smaller canteens most often purchase cakes and they must be sold at 10 per cent to 25 per cent above cost price, according to their degree of waste and perishability.

The second largest item of expenditure is labour. The average canteen doing 100 cooked meaks with, say, 300 beverages and 150 meals a.m. and p.m. (all taken in the canteen) will need:—

Cook Manageress
Assistant Cook
2 General Assistants—full time
1 ,, ,, —part time

making a wage bill of approximately £30 weekly. This £30 must be added to the food costs on the scale of either:—

6d. on each main meal (2 courses)
½d. on each beverage
2d. on each snack
or
3d. on each meal
1d. on each beverage
1½d. on each snack

or, in fact, any variation which will bring you in an income about 10 per cent in excess of the £30 a week which is the labour cost. The other cost items: fuel, utensil replacements, laundry and stationery together will cost less than £8 weekly, and this £8 too must be added to the meal costing in the same proportions decided upon for labour cost, for example:—

1½d. on main meal
½d. on each beverage
½d. on each snack.

The final costs, which are the selling prices, will then be approximately as set out in the table above.

Adjustments

This sort of hypothetical budget must, of course, be adjusted to fit individual circumstances. Where income is derived almost wholly from beverages and snacks, smaller additions to basic food costs are needed.

Where the firm feels strongly that the main meal is the important thing, this is often far more heavily subsidised than other items, but where no subsidy is contemplated it can only be sold at a comparatively low price by putting higher prices on tea, etc.

Another point that affects costs is the size of portions, choice of menu and variety of dishes offered. The figures given here allow for good average portions, wholesome dishes in season and a choice of two main meals—three sweets and, say, three filled rolls, four types of cakes.

A very modern compact kitchen and servery could perhaps cut out the extra part-time worker, but old, inconvenient, over-large premises might make it necessary to employ her full-time.

Again, meal breaks that are convenient for production may make the effective deployment of canteen staff impossible. By and large generalisations are useful only as comparisons and to clear up gross misapprehensions. There is a price at which any canteen can sell any item and still require no subsidy. But the price is far higher than the average price charged by canteens and, even if it is arrived at and put into operation, it must be flexible or, as circumstances change, it will cease to cover the necessary costs.

CANTEEN IDEAS!

A good idea is always worth passing on. Readers are therefore invited to send in details of any ideas that have paid dividends in their canteens so that others may benefit. These ideas can cover anything to do with the canteen: administration, cooking, layout, decor. A guinea will be paid for each letter published.

Woman's Angle on Industrial Catering

WHEN catering moves from the home to the public or works restaurant a traditionally female preserve passes generally into the hands of the male of the species. He it is who builds up, administers and, as often as not, does the cooking. One woman who has not accepted this as only natural, however, is Mrs. George Coleman,

Mrs. Coleman: "An industrial army marches on its stomach".

American wife of an English business man, who has successfully established herself in the British industrial catering scene.

Having decided (with that initiative which we are told is typical of the American woman) to put her experience in industrial relations to some practical use, Mrs. Coleman formed *Corder Industrial Caterers Ltd.* with herself as managing director. Now, after three years, the firm has over 100 staff on the payroll.

Mrs. Coleman employs only women, not for any reasons of embittered feminism but because she believes that "looking after a man's requirements is essentially a woman's business". When asked "What about administration, ordering, accounts and so forth", her reply was "Some of the best accounting today is done by housewives".

Notwithstanding this feminine and domestic approach, Mrs. Coleman's attitude is very business-like. While admitting there is still enormous scope for improvement in our industrial catering, she is firmly against what she calls "airy-fairy schemes" that a management cannot really afford and that workers do not really want. "An industrial army marches on its stomach", she asserts, "and that means a good solid meal with the hot dishes hot and the cold dishes cold, speedy service and the right price. If the man at the bench gets a meal that is value for money, there are only reasonable profits, no fortunes, to be made from industrial catering."

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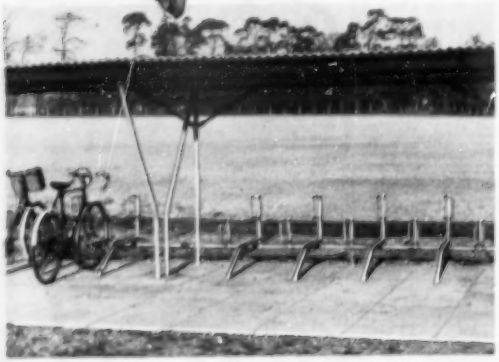
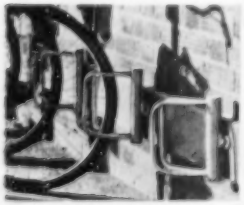


Part of a covered stand, fitted with VelopA Bicycle Holders and ramps, supplied to the Middlesex County Council for a new school, for storage at 12-inch centres.



Model RT, 45°, bolted to timber beam.

VelopA holders, 45°, with extended top brackets to suit recessed wall.

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Handling

CARBOY CARRIER

THIS new truck is a development of the well-known *Safe-Way* carboy tilter, whose novel features include the following:—the sliding clamp does not touch the iron skip, there is no metal ring surrounding the neck of the bottle, there is no chain or bar across the front of the carboy.

In the case of the carboy truck, the full carboy is placed in the cradle at ground level and by means of an easy arm and foot operation, the carboy is immediately lifted to the transporting position.

Unlike other trucks, this new device has an ingenious lever-operated "stop" which can be put out of operation when lifting the carboy from the ground or lowering it when empty. After lifting the carboy a single movement of the ball-handled lever puts the "stop" into action (see illustration) and the carboy is then ready for transporting to any place and for emptying by pulling on the tilting handle. It will be noticed that the carboy is lifted to a sufficient height to ensure complete emptying. This new truck is available with large 14 in. diameter wheels, either all-steel or rubber cushion tyred. **(PM/1126.)**

HOISTING MADE EASY

LIMITED headroom is the problem tackled by the *Martonair* pneumatic hoist with a swinging boom consisting of two hinged tubes. The equipment is especially useful for lifting sacks, moulding boxes and other containers which cannot conveniently be handled by normal lifting gear.

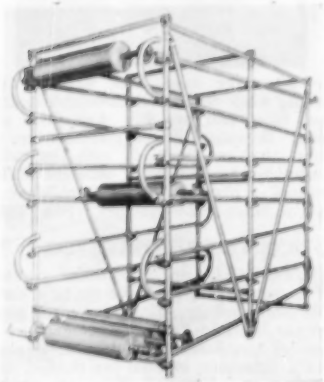
Operating with an air pressure of 80 lb. per sq. in. the double-hinged arm permits 6 ft. lifts of loads of up to 500 lb. over an area of 100 sq. ft. The hoisting arm rotates completely round the vertical column at a variable speed. Low air consumption is claimed.

The hoist is available in four sizes with maximum 6 ft. lifts of 120 lb., 200 lb., 300 lb. and 500 lb. **(PM/1127.)**

Readers who wish to know the suppliers of any of the products referred to in this section are asked to write to the Editor, quoting the reference number which appears at the end of the paragraph. We are always glad to consider for publication descriptions — preferably accompanied by an illustration suitable for reproduction—of new products.

SPINDLE STORER

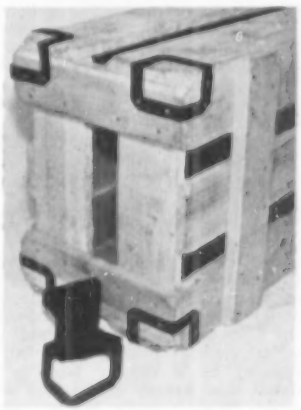
ALL materials that can be stored on a spindle are capable of being handled in the new *Kee Klamp* rack. Working on the principle of a slight incline from loading to production end the material progresses towards the using end by an alternating vertical and horizontal movement, losing height at each stage until ground level is reached. The system also ensures that material is used in the order of its delivery, with no accumulation of stock. A variation of this type of storage enables variations of quality, colour, etc., to be stored at different levels and selected as needed for delivery to the point of use. Each type of material is held by a stop until wanted.



An operator can select a loaded spindle from any level and have it automatically delivered to the ground, by removing the stops. **(PM/1128.)**

SAFE CORNERS

NEW patented crate corners can be fitted by unskilled labour. Although an added expense to crating they will safeguard the contents during despatch or storage. They can be screwed to the crates easily through holes pierced in the metal corners. These holes are positioned to suit all thicknesses of timber and are rustproofed. **(PM/1129.)**



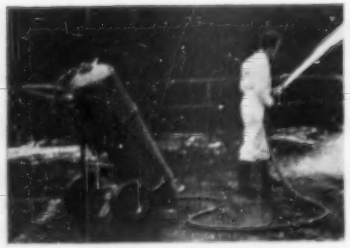
Safety

PORTABLE FIRE SMOTHERER

AN entirely new type of self-contained, portable foam fire fighting appliance has recently been announced. It is a trolley-mounted unit of 30 gallons capacity which produced more than 400 gallons of fire-smothering mechanical foam for use against outbreaks involving quantities of oils, spirits, fats and other inflammable materials. It has been designed to meet a wide variety of fire risks, and has many distinct advantages over the more widely-used chemical foam engine.

It is particularly suitable for use where water mains do not provide sufficient pressure for other forms of mechanical foam-making equipment. Additional advantages are that it can easily be manoeuvred and operated by only one man and that re-charging can be completed on the spot within a few minutes.

Foam is generated at the delivery end of a 30 ft. length hose by a specially designed miniature foam-making branch-



pipe. The unit is operated simply by unwinding the hose and pulling the CO_2 lever in an upward direction. Total discharge is completed in two minutes.

The unit is mounted on a two wheeled trolley of light, tubular steel construction and is designed to operate in the upright position. The unit weighs 670 lb. when charged, is 4 ft. 11 in. in height and 2 ft. 7 in. in width overall.

(PM/1130.)

HARDY CAP-LAMP

NEW *Nife* cap-lamps are designed for use in dangerous atmospheres and can be operated with perfect safety in heavy concentrations of hydrogen, coal gas, coke oven gas, blue water gas and other gases of the pentane and petroleum groups. The lamp shown here is designed to be worn on a helmet or suitable cap. The toughened plastic headpiece is connected by a flexible lead to the stainless steel battery case at the waist. Another design is similar in every respect except that a handle enables it to be used as a handlamp.

The main bulb, a 1 amp. Krypton gas-filled type, is fitted into a specially designed reflector to provide an intense beam with wide angle diffusion. An alternative pilot bulb of low consumption conserves battery capacity when necessary.

Power is supplied by a *Nife* high capacity nickel cadmium alkaline battery of three cells with a capacity of 12 Ah. Ideally suited for this type of work, it couples an unusually long life with the capacity to stand idle for long periods without deterioration. It is therefore available for immediate use in any emergency. **(PM/1131.)**

THREE-IN-ONE MASK

DESIGNED with a supple and perfectly sealed rubber face-piece, with rubber sealing frame and chin cup, the *Draeger* Semi-Mask 74 is a three-in-one mask giving protection against coarse, fine dust or dust and gas (solvent fumes) and can be used in a wide field of application. For protection against such coarse dust as coal, lime, flour, wood dust, etc., the mask should be fitted with three coarse dust filters; for use in atmospheres with mineral, quartz, asbestos, glass, abrasive, metal dust and fumes one coarse and one fine dust filter are used together; where there is dust and gas one coarse dust filter and one gas filter are used. For welding and cutting work one non-inflammable coarse dust filter and one fine dust filter are used. By using different combinations of filters that are provided with the mask protection against many different atmospheres is obtained. The Semi-Mask is easy to clean and maintain. **(PM/1132.)**

EFFICIENT FIRE DETECTOR

WORKING on a constant current monitoring principle the new *Auto-Thermatic* fire detection equipment gives instant warning of fire outbreaks. A current circulates through all the automatic detectors, manual fire pushes, and connecting cables and, if for any reason this current is interrupted, due to the operation of a detector, manual fire push, or by a break or short circuit in the cables, the relay coil will lose its holding current and consequently release its contacts, which in turn will operate the alarm bells.

The alarm system can be connected by a pair of private Post Office lines to the local Fire Brigade. Immediately an alarm condition is created within the premises, whether by an automatic detector or by a manual fire push the Brigade are notified of this fact and will act accordingly.

The Auto-Thermatic control board.

An advanced feature of this system is the facility which enables the officer on duty at the Fire Station control panel to make a routine test of the automatic fire system once every day. If any faults have developed the management is notified and the fault investigated.

(PM/1133.)

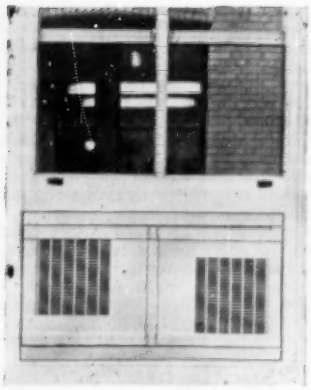
Ventilation

VERSATILE AIR CONDITIONER

FOUR models of a new room air conditioning unit which have the same overall size are available to meet the varying demands of different climatic conditions. Their cooling capacity is equal to one ton of ice melting in 24 hours, or 12,000 B.T.U. per hour. One of the models provides cooling only, another cooling and electric heater, the third cooling and heat pump and the fourth cooling, electric heating and heat pump. The units are so arranged that thay can be installed flush with the inside wall or window, or flush with the outside of the building or in any desired intermediate position.

When used for re-circulating and for conditioning room air only there are two entirely separate air circuits isolated from each other by the bulkhead which extends across the width of the unit. Both the return (room) air and outlet (conditioned) air grilles are located on the front face—as shown in our illustration.

Moulded in one piece these PVC calf-length boots are resistant to oils, acids, grease, etc., and are fitted with moisture-absorbing insoles. **(PM/1134.)**



The inner, or room, air circuit is arranged so that air is drawn from the room, passed through the detachable and washable nylon mesh filter, cooled while passing through the evaporator and then returned to the room. The re-circulating capacity of the conditioner is 350 cu. ft. per minute but if desired up to 65 c.f.m. of this may be fresh air drawn from outside by means of a damper in the central bulkhead. Incoming fresh air is both filtered and cooled before it is discharged into the room.

The unit works with a minimum of noise and all the unit's controls, which are grouped on a control panel, are concealed but readily accessible. An electrical interlock is provided so that it is not possible for the motor compressor to be run unless the fan motor circuit has been closed. **(PM/1135.)**

Welfare

AUTOMATIC ANNOUNCER

A NOVEL automatic announcing system which, at the touch of a button, can reproduce any one of 25 pre-recorded announcements or signals for relay over a loudspeaker system, has just been produced.

The messages are recorded side by side on a special loop of 3 in. wide magnetic tape, and the appropriate one selected by push-button when required. To make the system fully automatic, particular announcements such as shift changes, meal breaks or other messages can be triggered off by a master clock mechanism without the need for any human attendance. Also the push-buttons can be mounted remotely from the instrument so that announcements, emergency calls such as fire alarms, or whatever broadcast is desired can be initiated from other parts of the premises.

The paper-backed magnetic tape used is made in the form of a continuous loop which normally lasts 30 seconds. Special loops can be supplied, however, having any duration between 10 seconds and about 4 minutes. The method of storing the tape is original for as it is played it passes through a guide into a Perspex-fronted casket, where it falls naturally into folds or convolutions. The use of a continuous loop of tape eliminates the need for spools, and of course no re-winding is necessary. **(PM/1136.)**

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What Has the Office to Offer?

"WHAT has the office got to offer?" was the question posed by the Office Management Association at their annual conference at Folkestone recently. Today when more than 10 per cent of the working population is employed as clerks an important range of careers is linked with office work. However, in face of competition from other careers which have greater appeal this figure is now declining. The conference therefore discussed problems of publicising the office as a good career together with the previous title.

In a most forthright and constructive speech Mr. D. S. Greensmith, general office manager of *Boots Pure Drug Co. Ltd.*, asked the conference if they thought they were justified in asking for a greater percentage of school leavers than the 100,000 annual intake at the moment. With the rival attractions of research, engineering, medicine, etc., he believed it better to attempt to improve the quality of recruits rather than the quantity. The existing wage structure, office accommodation (the Cinderella of all business accommodation) and training schemes were given insufficient attention and little was done to promote better relations between schools, parents and firms. He felt that the only way to get rid of the stigma attached to the office worker would be to improve the scope and conditions of his work.

School teachers had little idea of the variety of work in offices and consequently conveyed incorrect impressions to their pupils. Better liaison between schools and offices would do much to alleviate the problem now facing office managers. Initiation schemes by fully trained and competent supervisors, suggestion schemes, better application of organisation and methods and improved working conditions would help to give office workers pride in their jobs and reduce labour turnover.

Train the Girls

Mr. G. J. Mills, Comptroller of *J. Lyons & Co. Ltd.*, was of the opinion that the office had never before had so much to offer and the important factor was to convey this to potential staff. He also criticised those firms who refused to train single women because of the high wastage factor. This was a short-sighted attitude for, even if after a short period of work following training, girls left to get married their work in that period would have been of a higher standard than otherwise. Good training was never wasted and was always appreciated, for such women frequently returned to work after marriage when they could then take up their old jobs confidently and efficiently with the minimum of time wastage.

Talking of the attitude of the university graduate to entering offices Mr. C. E. Escritt, secretary of the Oxford University Appointments Board, said that graduates dreaded becoming "pen pushers". The office did not attract them for many reasons. The most prominent of these were the fear of being tied to a desk, the fact that there was no recognisable career structure, promotion prospects based on "dead men's shoes" and the low starting rates of pay, compared to other employment. Offices had much to learn from industry in these respects and until attention was paid to such points graduates would, quite rightly, regard offices as "the sterile world of clerks and inkwells".

Comparing the office with football Mr. R. K. Bremner, office manager of *Richard Costain Ltd.*, reminded the conference of the back line of a football team which contributed as much to a goal as did the actual scorer. So it is with clerical staff who actually contribute as much to the end product as productive staff, although the former were infrequently given such credit. One should not consider the office as a career, he concluded but, on the other hand, there were many careers to be had in the office.

B.A.C.I.E. President on Automation

THE newly elected president of *B.A.C.I.E.*, Sir Godfrey Ince, had some interesting things to say on automation and human relations when he recently addressed the annual general meeting of the Association. He pointed out that history had always shown that the introduction and development of machinery and mechanical power has always led to increased employment, and that there was no reason to suppose that automation would not have the same result. After all "automation differs only from the traditional types of machines in that it involves improved control and supervision of industrial processes rather than improved production processes themselves".

Automation would, in Sir Godfrey's view, involve a change in the occupational structure of manpower. Some skills would become obsolete, but many new jobs requiring a higher level of skill and training would be created. As in the factory, so in the office there would be a change of emphasis from the less skilled to the more skilled jobs. "In other words, it means increased education and training in its broadest sense."

Considering school leavers whose numbers will be reaching a peak in 1962, Sir Godfrey pointed out that during the next few years there would be a unique opportunity for industry, commerce and the professions to train an adequate supply of skilled persons to help the country to meet the needs of an expanding economy in the years ahead. In particular, it would provide industry, commerce and the professions with the opportunity, which is unlikely to recur, to make up some of the lee-way in the numbers of skilled craftsmen and technicians that are required—and particularly those who are required for meeting the demand of automation. He hoped that employers would not miss this opportunity and at the same time review their apprenticeship and training arrangements.

Concluding with some words on the value of good human relations he said that these new labour techniques must be applied in the right way, with the spirit of goodwill and co-operation.

TV Spotlights Factory Safety *(Continued from page 23)*

off for the works fully fitted with safety-boots, dungarees, hard hat, and an enormous L plate on his back !

And what was the result ? From the safety angle Alkali Division does not know yet: Wallerscote's frequency rate so far during 1956 is 0.187 as opposed to an eventual 0.424 for 1955. Time alone will tell how far Wallerscote employees have become more safety minded. For those at Alkali who are interested in TV as the communicant of the future, the exercise was in many ways most impressive, though it was not untinged with a feeling that Big Brother might be watching you.

The trouble with modern industry is that sometimes it has to be large to be successful. But with size comes the danger of remoteness. Many in the Alkali Division see in wired TV one possible way of breaking down the management-worker barrier that is begotten of sheer size by making the higher management better known to the rank and file. With TV properly managed, particularly if the work-people take a share themselves, there will, Alkali think, be far less "they to us", and much more "we".

One last point. That very go-ahead concern, H.M. aircraft carrier "Ark Royal" has equipped itself throughout with telecine and TV facilities for instruction, briefing, putting-in-the-picture, and for straight entertainment. Their ship's company is not widely different in size and morale from a medium sized chemical factory such as Wallerscote. And one thing they *have* found, if nothing else: that the captain gets saluted far more often when on shore in plain clothes than ever he did before wired TV carried his face and personality to every corner of the ship.

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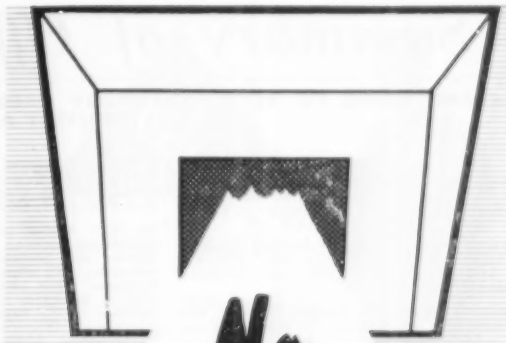

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Summary of Official Publications

READERS' GUIDE TO ACTS, STATUTORY ORDERS, NEW RULINGS AND AWARDS CONCERNING INDUSTRY AND PERSONNEL

GENERAL

Careers Guide. Opportunities in the Professions and in Business Management. 3rd edition (revised). Published by the Ministry of Labour and National Service. *H.M.S.O.* 3d.

Fire Research Board. Report, with the Report of the Director of Fire Research for 1955. Published by Department of Scientific and Industrial Research. *H.M.S.O.* 4s.

Pensioner's Guide to the Pensions (Increase) Acts. Published by the Treasury. *H.M.S.O.* 3d.

Wage Accounting by Electronic Computer. Report No. 1 of the Inter-Departmental Study Group on the application of Computer Techniques to Clerical Work. Published by the National Physical Laboratory. *H.M.S.O.* 2s. 6d.

Productivity in the Wholesale Trade. Project No. 153. Published by the European Economic Co-operation Organisation. *H.M.S.O.* 9s.

Wages Councils Act, 1945-1948. Report of a Commission of Inquiry appointed in 1955 to consider an Application for the Establishment of a Wages Council for the Rubber Proofed Garment Making Industry. Published by the Ministry of Labour and National Service. *H.M.S.O.* 9d.

STATUTORY INSTRUMENTS

No. 745. The Sugar Confectionery and Food Preserving Wages Council (Great Britain) Wages Regulation (Amendment) Order, 1956. Dated June 6, 1956, made by the Minister of Labour and National Service under section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 3d. Increases statutory minimum remuneration fixed by previous Orders.

No. 760. The Wages Regulation (Unlicensed Place of Refreshment) (Amendment) Order, 1956. Dated June 11, 1956, made by the Minister of Labour and National Service under Section 8 of the Catering Wages Act, 1943 (a). *H.M.S.O.* 6d. Increases statutory minimum remuneration fixed by previous Orders and re-defines areas to which respective rates apply.

No. 779. The Coffin Furniture and Cerement-making Wages Council (Great Britain) Wages Regulation Order, 1956. Dated June 8, 1956, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 6d. Sets out statutory minimum remuneration payable in substitution of those set by previous Order.

No. 856. The Wages Regulation (Industrial and Staff Canteen Undertakings) (Amendment) Order, 1956. Dated June 3, 1956, made by the Minister of Labour and National Service under Section 8 of the Catering Wages Act, 1943 (a). *H.M.S.O.* 3d. Effective from June 25, 1956, increases statutory minimum remuneration fixed by previous Orders.

No. 857. The Stamped or Pressed Metal-Wares Wages Council (Great Britain) Wages Regulation (Amendment) Order, 1956. Dated June 4, 1956, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 4d. Increases statutory minimum remuneration fixed by previous Orders.

No. 865. The Central Co-ordinating Committee (Retail Trades and Hairdressing) (Abolition) Order, 1956. Dated June 5, 1956, made by the Minister of Labour and National Service under Section 8 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 2d. Abolishes the central co-ordinating committee as set up by the Central Co-ordinating Committee (Retail Trades and Hairdressing) Order, 1949.

INDUSTRIAL COURT AWARDS

No. 2603. Grades of Designated Officers Within the Purview of the Administrative and Clerical Staffs Council—Scales of Salary—Claim for Increase. Reference: To determine a difference between the parties as to salary scales which apply within grades covered by the Administrative and Clerical Staffs Council other than the general grades. **Award**: Claim established with effect from February 1, 1956. (3/4/56.)

No. 2609. Ministry of Transport and Civil Aviation—Industrial members of the Aerodrome Fire Service and Southampton Airport—Claim for alternating shift allowance during winter periods. Reference: That alternating shift allowance be paid in respect of hours worked by industrial members of the Aerodrome Fire Service of the Ministry of Transport and Civil Aviation at Southampton Airport during winter periods. **Award**: Claim not established. (1/5/56.)

No. 2611. Land Drainage—Rates of Pay—Claim for increase. Reference: To determine a claim by the Employees' Side for an increase of 4d. per hour in the minimum adult wage rates fixed by the Council. **Award**: Existing adult minimum rates increased by 2½d. per hour with proportionate increases for youths. (29/5/56.)

INDUSTRIAL DISPUTES TRIBUNAL AWARDS

No. 821. Remuneration of Certain Chief and other Officers Employed by the Corporation of the City and County Borough of Salford. Claim: For an application concerning the grading of certain chief and senior officers in terms of the salary scales recommended for such officers by the Joint Negotiating Committee for Chief Officers of Local Authorities. **Award**: Claim established. Effective from 1/1/55. (3/4/56.)

No. 822. Remuneration of the Borough Education Officer, Stockton-on-Tees. Claim: For the adoption by the County Council of a specified salary scale in respect of the Borough Education Officer, Stockton-on-Tees. **Award**: Claim established. Effective from 5/4/55. (5/4/56.)

No. 823. Observance of Recognised Terms and Conditions of Employment by a Firm of Engineers at Fleetwood. Claim: That the company should observe the recognised terms and conditions of employment in the engineering industry and in particular the agreement dated 29/11/51, relating to holidays with pay. **Award**: Claim established. (10/4/56.)

No. 824. Rates of Wages of Workers in the Sports Goods Manufacturing Industry. Claim: For an increase of 6d. per hour on current wage rates to operate from 30/11/55. **Award**: Basic rates of workers concerned shall be increased by 3d. per hour for male workers and 2½d. per hour for female workers. (10/4/56.)

No. 825. Grading of an Officer Employed by the Birmingham Regional Hospital Board. Claim: In regard to the grading which should apply to a particular post. **Award**: Claim established. (13/4/56.)

No. 826. Rates of Wages, Working Week and Certain Other Conditions of Employment in the Herring Curing Industry. Claim: For an increase in wage rate, a reduction in the working week, an increase in the number of paid local or statutory holidays and an increase in the subsistence allowance. **Award**: Claim established. Working week shall be 44 hours; basic rate 3s. 10d. per hour; overtime rates adjusted proportionately; six local or statutory holidays shall be paid for. (9/1/56.)

No. 827. Rates of Wages in the Cotton Industry. Claim: For an increase of 10 per cent in current wages. **Award**: An increase of 5 per cent granted. (23/4/56.)

No. 828. Observance of Recognised Terms and Conditions of Employment in Respect of their Clerk by the Blaydon Urban District Council. Claim: That the Blaydon U.D.C. should observe in respect of the Clerk of the Council the recommendations of the Joint Negotiating Committee for Town Clerks and District Council Clerks. **Award**: Claim established. Effective from 8/3/55. (25/4/56.)

No. 829. Rates of Wages in the Building Brick and Allied Industries. Claim: For a substantial increase in the minimum wage rate with proportionate increases for females and juveniles. **Award**: Minimum rate of wages for adult male workers increased by 2½d. per hour with proportionate increases for juvenile male workers and for female workers. (25/4/56.)

No. 830. Rates of Wages of Workers in the Home Grown Timber Trade. Claim: For an increase of 4d. per hour for adult male workers with proportionate increases for females and juveniles. **Award**: Minimum rates of wages for skilled sawyers increased by 3d. per hour and 2½d. per hour for other adult male workers, with proportionate increases for female and juvenile workers. (26/4/56.)

No. 831. Grading of a Stores Clerk Employed at a Hospital in Suffolk. Claim: Regarding the grading which should apply to a named stores clerk. **Award**: The clerk named be graded in Grade A. (27/4/56.)

No. 832. Observance of Recognised Terms and Conditions of Employment by a Builder at Grange Park, London. Claim: That the employer should observe the recognised terms and conditions of employment in the building industry. **Award**: Claim established. (30/4/56.)

No. 833. Conditions of Employment During a Particular Regular Period of Tugboatmen Employed by a Towing Company at Hull. Claim: That hours between 11 p.m. and 5 a.m. be credited as hours worked, when a tugboat works at these times. **Award**: Claim not established. (30/4/56.)

No. 834. Remuneration of Certain Clerical Staff of the Herring Industry Board. Claim: That the Board should apply salary scales to certain members of their staff in accordance with those agreed between the Board and the Union. **Award**: Claim not established. (2/5/56.)

No. 835. Observance of Specified Terms and Conditions of Employment by a Firm of Plumbing Contractors at Caernarvon. Claim: That the employers should observe all the recognised terms and conditions of employment in the building industry. **Award**: Claim established. (3/5/56.)

New *NAPT* publication

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(Joint meeting with the Association of Industrial Medical Officers.)

This booklet is a reprint from the Transactions of the Fourth *NAPT* Commonwealth Health and Tuberculosis Conference held in the Royal Festival Hall, London, in June 1955.

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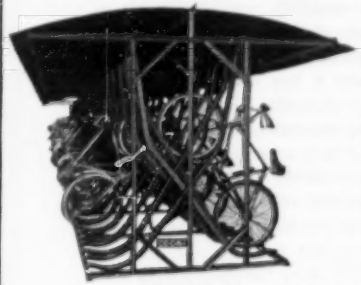

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No. 3 ,, ,, 4th February, 1957, ,, ,, 1st March, 1957.

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Courses for Trade Union Officials and Shop Stewards. Members for these Courses may either be sponsored by Trade Unions or by Industrial Firms (usually in consultation with Trade Unions).

No. 1 Commences Monday, 22nd October, 1956, to Friday, 16th November, 1956.
No. 2 ,, ,, 7th January, 1957, ,, ,, 1st February, 1957.
No. 3 ,, ,, 18th March, 1957, ,, ,, 12th April, 1957.

Foremanship and Human Relations—2-week Courses.

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No. 1 Commences Monday, 4th March, 1957, to Friday, 15th March, 1957.

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*No. 1 Commences Monday, 20th May, 1957, to Friday, 28th June, 1957.

* Excluding Whit Monday and Tuesday, 10th and 11th June, 1957.

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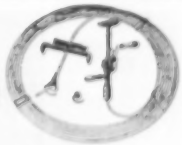

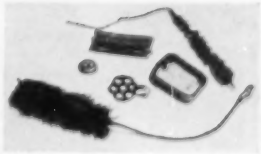

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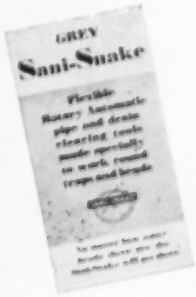

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No. 837. Remuneration of the Housing Superintendent of the City and County Borough of Coventry. Claim: For the application of certain salary scales to the post of Housing Superintendent. **Award:** Claim not established. (7/5/56.)

No. 838. Piece Rates of Wages of Weavers Employed by a Firm of Woollen and Worsted Manufacturers at Morley Yorkshire. Claim: From a proposal by the employers to adjust the piece rates of weavers. **Award:** Established against the employers' proposal. (7/5/56.)

No. 839. Observance of Recognised Terms and Conditions of Employment in Respect of Certain Workers Employed at the Bradford Grammar School. Claim: That certain specified terms and conditions of employment be applied in respect of workers employed in the school meals service. **Award:** Claim not established. (8/5/56.)

No. 840. Remuneration of Clerical and Administrative Workers Employed by a Firm of Electrical Engineers in Surrey. Claim: For certain specified increases in wages. **Award:** Claim established. Effective from 8/8/55. (14/5/56.)

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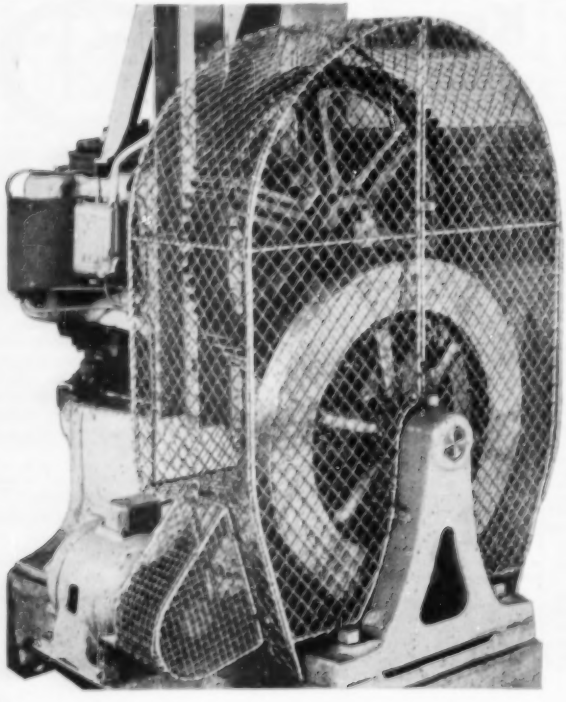

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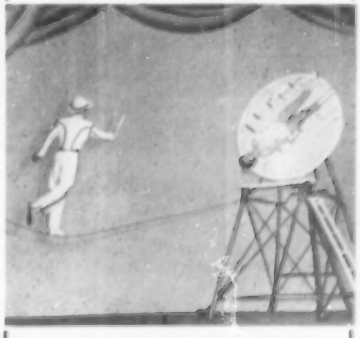

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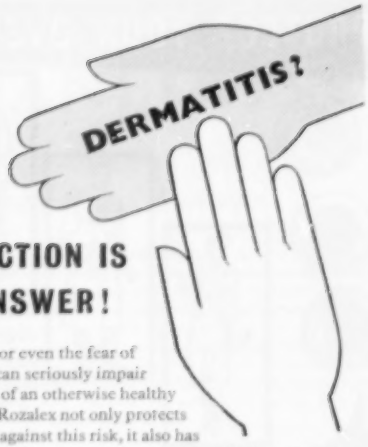

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